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ABSTRACT

Sixty-three selected convention papers (conference reports) are presented on different aspects of educational needs in special education. Six general papers are followed by 10 papers on mental retardation, in which selected topics include mental retardation and the culturally disadvantaged and physical fitness of mentally retarded boys. Representative topics among the 10 papers on auditory impairment are sequence in teacher education for teachers of the deaf and adult education for the deaf. Two papers are then given on international aspects of special education, one paper on visual impairment, four papers on the gifted, and seven papers on the homebound and hospitalized. Selected topics discussed in the eight papers on learning disabilities are conditions related to specific reading disability and the physician's contribution to interdisciplinary management of children with learning and behavior problems. Concluding the collection are five papers on preschool programs, four papers on teacher education, four papers on behavioral disorders, and two general papers. (CB)

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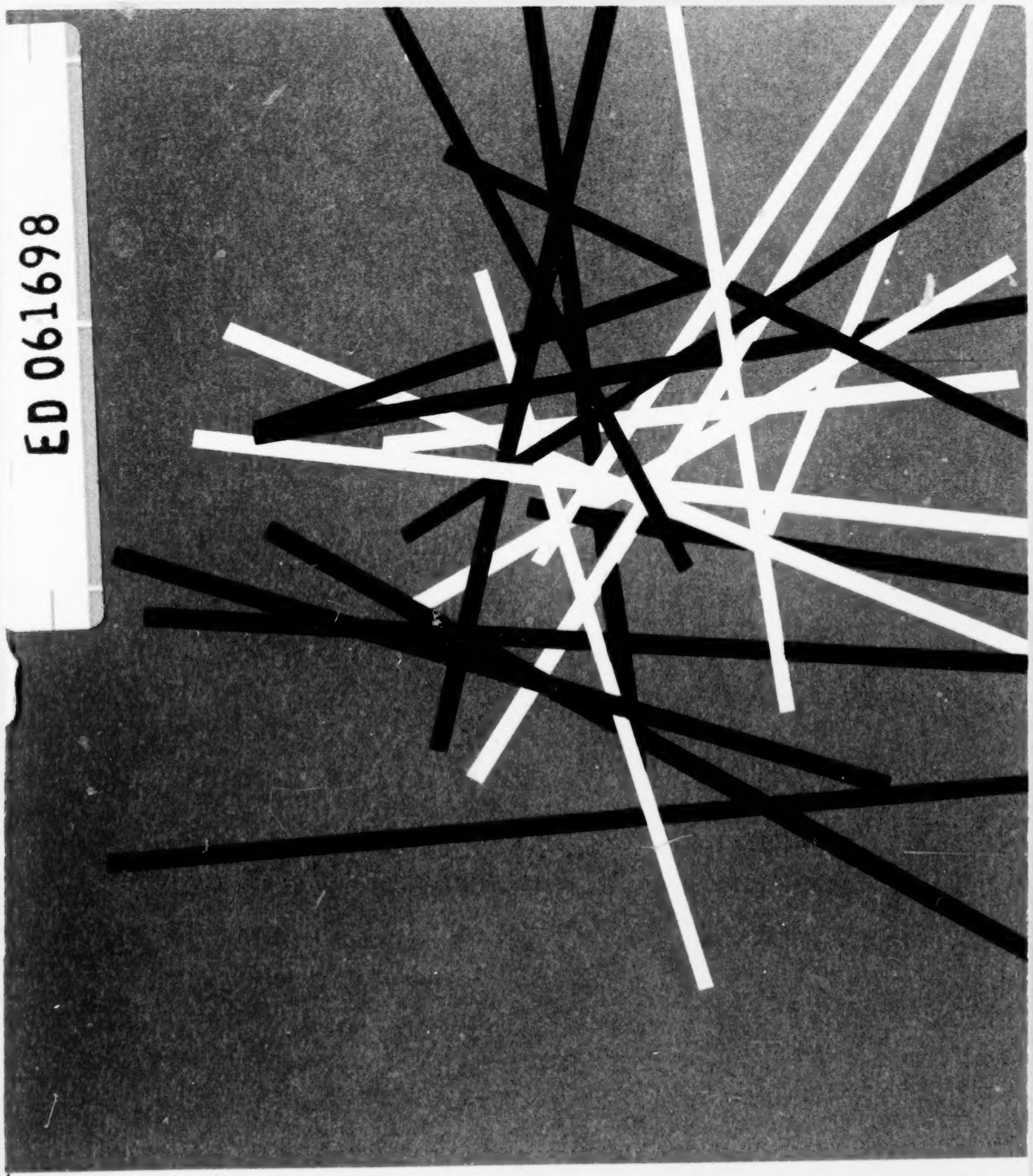

Selected Convention Papers

New Frontiers in Special Education

NEW FRONTIERS
IN SPECIAL EDUCATION

Selected Convention Papers

43rd Annual CEC Convention

Portland, Oregon

April 20 - 24, 1965

The Council for Exceptional Children, NEA
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GENERAL SESSIONS

APPLICATION OF OPERANT PRINCIPLES TO THE TEACHING OF READING, WRITING AND ARITHMETIC TO RETARDED CHILDREN

Sidney W. Bijou

During the past three years we at the University of Washington have been applying operant techniques to the teaching of reading, writing and arithmetic to the retarded child in residence at the Rainier School, Buckley, Washington (Birnbrauer, Bijou, Wolf, Kidder, and Tague, 1965, 1966; Bijou, 1965). I shall describe this project briefly and discuss some of the implications of that venture for the academic education of the exceptional child, especially the retarded child.

The Experimental Classroom, as we have come to call the project, was established at the request of Charles H. Martin, Superintendent of the Rainier School. It is financially supported by the Rainier School, the White River School District, the University of Washington, and two grants from the National Institute of Mental Health.

The purpose of the study is to establish procedures for motivating retarded children to learn academic subjects, to develop programs for the teaching of reading, writing and arithmetic, and to strengthen supporting behaviors usually described as "good study habits." Our guidelines for getting the child to make appropriate academic responses and to strengthen them are founded on operant principles (Skinner, 1953; Holland and Skinner, 1961; Bijou and Baer, 1961, 1965). Our attitude about what we might expect from retarded children is based on a philosophy of science implicit in the application of operant principles. The attitude might be expressed in these words: "Let's keep an open mind and let's see what we can accomplish."

The study has been in progress for three years and is scheduled to continue for one more. At the end of next year we shall bring together all the findings in published form in the hope that they will prove helpful to the classroom teacher and to the educational researcher.

The Experimental Classroom is headed by two research teachers: John D. Kidder and Cecilia Tague. They, in turn, have been supported by research psychologists Jay S. Birnbrauer, Montrose M. Wolf, and Frances Greene. Other members of the Developmental Psychology Laboratory at the University of Washington have contributed suggestions generously.

The number of children who have participated in the study has varied from time to time. At present there are 17 boys and girls, in three groups, ranging in age from eight to 14, in mental age from four to eight, and in IQ from 44 to 77, with a mean IQ of about 56. Their clinical diagnoses include mongolism, familial retardation, brain damage, and unknown. At the beginning of the study, their reading scores ranged from zero to 1.6 grade with a mean of .3 of a grade, and their arithmetic scores extended from zero to 1.8 grade with a mean of .5 of a grade. Former teachers described most of the children as having behavorial problems including noncompliance with instructions, temper tantrums, pouting, and wandering attention.

The performance of seven children who have been in the study from its inception supply most of the data to which I shall refer. They are referred to as the advanced group.

All of the children who participate in the study attend class in a specially designed set of rooms. As shown in the schematic drawing in Figure 1, the facility consists of the central classroom with six desks, two work tables, and three writing tables; and the

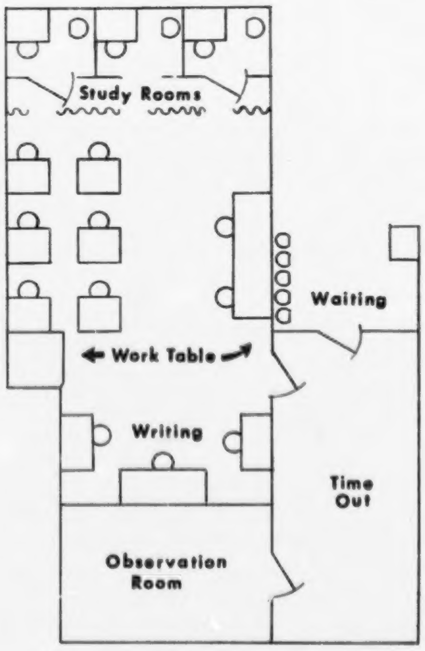

Figure 1. Components of the Rainer School Experimental Classroom

study rooms with a desk and two chairs in each. The other three components consist of (a) the waiting area outside the classroom where the children gather prior to entering the classroom, (b) the "time out" or quiet room, and (c) the observation room.

The typical daily procedure followed by a pupil in the advanced group consists of:

Starting the day by meeting in the hall and chatting briefly with the teacher. Entering the room, when the teacher says it is time, getting his class folder with the specially prepared assignment sheet, setting his watch, and recording the starting time on the assignment sheet. Working on the assignments listed, entering answers in the designated places, and the beginning and ending times for each exercise. At present each child engages in nine tasks:

1. Spelling cards (inserting missing letters).
2. Matching words with pictures.
3. Reading for comprehension by answering questions.
4. Reading for comprehension by following directions.
5. Blending letter sounds (on a teaching machine).
6. Copying words and phrases from cards.
7. Learning numerical sequences (on a teaching machine).
8. Adding single numbers (on a teaching machine).
9. Counting by some unit such as two's, three's, five's, etc.

The level at which each child works on each task is set specifically for him.

The assigned work is arranged, in so far as possible, to give the child immediate indications on how he is doing as he goes. These are known as feedbacks or confirmations. The teaching machines frequently help in this respect. With the completion of the last assignment, correct answers on the assignment sheet are reinforced (marks made in the child's booklet and social approval) and errors are corrected. Throughout the session the teachers and the assistants may also give marks for any desirable classroom behavior. A page full of marks may be cashed in at the end of the day for candy, toys, or other objects. Completed pages of marks may also be saved for larger items or for special outings (Birnbrauer and Lawler, 1964).

The children work through their nine assignments in about two hours. They go about their tasks in a relaxed yet business-like fashion, asking for help and moving about the rooms as required on the assignment sheet. The times and answers recorded on the assignment sheet provide information for revising the programed material and for evaluating the motivational system.

There is much more to describe and to discuss: How the motivational system was gradually developed and evaluated (Birnbrauer, Wolf, Kidder, and Tague, 1965). How the study habits were systematically shaped and extended. How the reading, writing and arithmetic programs were started and thoroughly revised again and again (Green, 1962; Holland, 1960; Skinner, 1961). How the staff agonized over the use of the light boxes in teaching writing. Rather than expand on these topics, I shall devote the remainder of my paper to two implications of the work. The first one pertains to the retarded child's potential for learning academic subjects. Our work strongly suggests that the retarded child can learn academic subjects far beyond what we have thought him capable. The second implication concerns the nature of the academic teaching-learning situation. It is feasible, practical, and downright advantageous to view the teaching task as one in which the teacher is continuously trying to do things (with her materials, her own behavior, and the behavior of others) to produce an effective learning environment for each child. The teacher of exceptional children may be viewed as one who is attempting to bring forth, strengthen, and maintain desired academic behavior in an individual handicapped child.

The Retarded Child Can Learn Effective Academic Behavior

The notion that the retarded child cannot learn academic skills is based on preconceptions about the nature of retardation and about the special mental properties required for academic learning. These preconceptions were with us before the advent of psychological tests and may remain interwoven in our interpretations of test results. For example, responses on tests are often taken to measure something that indicates the upper limit of capacity or ability. A more realistic way of interpreting tests is in terms of what the child is doing now in the skills sampled by the test and as a consequence of his history in relation to those interactions. If the course of the child's educational history is significantly changed for the better, his performance on educational tests will also increase.

For years investigators have been looking for something basic that would discriminate the retarded from the not-retarded (other than differences in repertories of behavior to specific situations in the physical and social environment). The retarded child has often been said to be incapable of doing many things. For example, he is said to be incapable of paying attention, concentrating, or of working for sustained periods. Our findings, and findings from other laboratories engaging in similar work, suggest that the retarded child can learn to pay attention, to concentrate, and to work for sustained periods. Visitors observing the advanced group often say, "Well, it is easy to teach these children. They are so attentive and so interested in wanting to learn." Mr. Kidder and Miss Tague usually reply, "You should have seen them when we started."

Now that we know that the retarded child can learn academic knowledge and skills when given opportunities encouraging such behaviors, the question is often asked, How high can he achieve? To this question we must say: "We do not as yet know." To be sure, each retarded child will learn differentially depending on the interactions

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of conditions (biological, physical and social) responsible for the retardation and on the skill of the particular teacher. The teacher's skill, in turn, will depend in part on the state of our knowledge in applying learning principles and her willingness to put them to work.

One thing is clear: The retarded child with biological equipment adequate enough to make the responses required in reading, writing, and arithmetic can learn these subjects at least to the point at which he can engage in more effective behavior in or outside of a special class or a special residential institution. To expect him not to learn is not only inconsistent with the facts but also a factor contributing heavily to the possibility that he will not learn (Bijou, 1963).

The Classroom Viewed as a Learning Environment

The second implication of the application of operant principles to the teaching of academic subjects to the retarded child involves a re-analysis of the teaching situation as a learning environment. Too often teaching is thought of as a process of "getting something across," or of "getting the child to see the point." In many instances in which teaching is carried on from this "put-it-in-his-head" point of view, the teacher works with great vigor and energy while the child sits passively watching an animated, dramatic performance. I might add that this also happens in the college classroom.

The present view suggests that the classroom learning environment is one in which the child is induced to display academic behavior which is effectively strengthened directly by the teacher or indirectly by the material or other social events she has arranged. Basically she plans the learning environment so that the child (a) develops skills (writing, drawing, cutting, etc.), (b) gains new knowledge (telling time, naming colors, following directions), and (c) learns how to learn better (increasing attention span, developing intrinsic reinforcers).

What are the main components of an effective learning environment, an environment that will bring out the desired behaviors so that they may be strengthened? There are at least two: (a) Knowledgeable use of contingencies. (Events that strengthen academic behaviors and weaken competing behaviors). The contingency system instituted should be one that is effective for each child in the class. The first efforts of the experimental classroom staff and consultants were devoted to working out a reinforcing plan that could be evaluated in objective terms. (b) Knowledgeable us of programed instruction techniques. Once it is established that we have a system which strengthens desirable academic behavior and weakens competing behavior, then the question is how to arrange the tasks to be learned so that appropriate responses will be made with high occurrences. Well-conceived and well-tested programs of reading, writing and arithmetic are designed for this purpose. It sounds as if we are talking about curricula and lesson plans, and we are. However, we are suggesting that several new and highly essential features be added to curriculum building and lesson planning, such as: (a) setting definite behaviorally-defined goals (terminal behaviors, in the jargon of programed instruction); (b) establishing workable progressive units (the size and content of each evaluated in detail on children); (c) instituting feedbacks for each specific response (simple teaching machines in most instances); and (d) collecting and analyzing detailed and specific performance records on a day by day basis for revising and extending the sequences. It follows from the last requirement that failures in learning are treated as failures in the programs (and/or motivational system), not as failures of something in the child. In teaching from this point of view, it is not meaningful or practical to attribute failures to learn to "learning blocks," laziness, alexia, perceptual deficiency, dyslexia, clinically diagnosed brain damage, and the like. This implication is probably one of the most difficult to accept. Nevertheless, it is basic to an empirical learning theory approach, and it is one that can be a source of many satisfactions and even exciting discoveries and triumphs.

When the learning environment is appropriate, not only will the retarded child learn, but he will show other behaviors that cannot fail to swell the pride of any teacher. The children in our study show that they enjoy schoolwork, they frequently request homework, and outside of the classroom they frequently put to practical use much of what they have learned.

Summary and a Forward Look

A quotation of Denny (1964, p. 136) from a paper devoted to a review of the literature on research in the learning of the retarded serves well as an appropriate summary. Denny says: "The outlook for the mentally retarded is surprisingly optimistic. . . at least theoretically." One might add ". . . and practically as well." He goes on: "It should be possible to develop appropriate motivational procedures and special training techniques to overcome an appreciable portion of the retardates' difficulties at least to the extent that they relate to the closely connected deficits in incidental learning, attention, and verbal control." It is probable that Denny was not aware of the work reported here because only fragmentary segments have been published thus far. It can at least be said that he has made an excellent prediction.

Where do we go from here? First, we must continue to encourage investigators to explore the applications of empirical principles to academic learning. Such efforts would be expected to produce more detailed and extensive information on procedures for motivating exceptional children and for programming basic academic tasks in all of their ramifications. Second, we must encourage teachers to obtain training which would enable them to utilize fully the products of such research, to build their own programs, and to modify for their own use those presented in the literature and in workshops, and to advance the development of informal procedures (e. g., lengthening attention spans, weakening disruptive behaviors) for constructing an efficient and effective learning environment.

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EDUCATION DELAYED IS EDUCATION DENIED

Edith Green

I am pleased to be here today and delighted you chose Portland as the meeting place for your 1965 convention.

It has been said, "When the tide rolls in, all boats rise." This is true not only for the tides of the great oceans, but also for the tides of progress and learning that sweep across the continents of the modern world. Programs for exceptional children have risen during the last ten years as the tide of interest in these exceptional children has swept across our shores.

It has been an indictment of our society that in an age when we have learned to open cans electrically; to broadcast voices and pictures across oceans and continents, even to bounce them from a tiny satellite hurtling through space; to journey below the polar ice; to hurl man, borne by the most powerful engines known to man, literally toward the stars. . . that while doing all these things, we have failed to give equal priority to the problems of handicapped people.

Undeniably, medical science has made great gains, and has opened many corridors for the solution of the problems of the physically handicapped. And psychological science has thrown much light upon the deep problems of the mentally and emotionally handicapped. But I pray for that time that Walt Kelly dreamed about when Pogo said: "In that geophysical year we have plumbed the depths and shot moons into the stars, now if we could have a year dedicated to man. . . "

Over the great temple at Delphi, at the time of the ancient Greeks, was carved the maxim, "Know Thyself." For the first time in the more than 2000 years since that command was given, science is beginning to open the paths to knowledge of ourselves, to knowledge of the mechanisms of the mind and body. We are working, not just to understand the universe around us, but the world within us; not just the matter which surrounds us, but the nature of our own organism; not the forces which affect life, but life itself.

In the decades to come our world, and the world of our children will be profoundly shaped by what we are just now beginning to learn.

The New York Times wrote on this new groundswell of knowledge: "When and if this... breakthrough occurs, it promises to pose problems man has never faced before--problems more difficult in some ways than the gigantic ones posed by the mastery of nuclear energy and the beginnings of space travel."

The article went on to call upon people to prepare themselves for the responsibilities which this new knowledge will create. And that is why we are here today.

Wherever scientists are laboring to understand the human mind and the human body, wherever they seek to understand fundamental life processes, their work will have consequences for the millions of exceptional youth of today. They will bring new hope and meaning to our work.

Just last week an article in the Washington Post told of the discovery by two Wisconsin doctors of another hereditary cause of mental retardation, the lack of a certain enzyme in the blood.

This may be comparable to the discovery of the cause of PKU. We now know that PKU can be controlled by regulating the diet of infants. About one out of every 100 patients in institutions for the mentally retarded is there because PKU was not identified early in his infancy. It has been estimated that the cost of keeping one such patient in an institution for life is about $100,000.

Because of a relatively simple and inexpensive test, over 1200 of the 126,000 mentally retarded infants born yearly could be saved from needless condemnation to mental retardation. In addition to the saving of heartache to the families involved--the great humanitarian aspects, this would be a savings of $126 million by the end of the lifetimes of those who are born mentally retarded in any one year.

The cost of this test is 50¢! As you know, the incidence of PKU is one out of every 10,000 births. It costs more to institutionalize one person for life than it does to test 200,000 infants out of which perhaps 20 cases of PKU would be identified.

And yet only six states have laws pertaining to the screening of infants for PKU, and only four states make the screening mandatory. This is just one example and there are many.

But the Twentieth Century commitment to science, medicine and psychology, must be accompanied by a real commitment to education.

North Carolina's Governor, Charles Brantley Aycock, at the start of this Century set forth the theme for this commitment when he said that we must seek to give every child the opportunity "...to burgeon out the best that is within him."

To honor this Twentieth Century commitment we were obligated to provide education for the blind, and we have begun to provide it. We were obligated to provide education for the deaf, and we have also begun that.

Now we are called upon to provide education for the speech impaired, the visually handicapped, the crippled, the emotionally disturbed and others.

Pioneering efforts in education are being made that will work for the benefit of all. On us and on others, with the same commitment, lies the responsibility for assuring that future generations will have cause to bless, and not curse, the light that is now being shed on the nature of man.

Our late President, John Kennedy, said, "Today we need a new standard of excellence in education matched by the fullest possible access to educational opportunities, enabling each citizen to develop his talents to the maximum possible extent."

I am sure President Kennedy had the exceptional child in mind when he made that statement, for on another occasion he said, "The future of any country which is dependent on the will and wisdom of its citizens is damaged, and irreparably damaged, whenever any one of its children is not educated to the fullest extent of his capacity, from grade school to graduate school."

When we were considering special education legislation, my Subcommittee on Education heard this testimony:

"Approximately six million American children of school age have extreme or unusual mental, emotional, social or physical conditions. These conditions range from mental retardation to unusual intellectual brilliance; and from blindness and deafness to social maladjustment or emotional disturbance. These exceptional children have a common need. If they have a full and equal opportunity to an education commensurate with their ability they must have special educational help." The problem is a huge one and it continues to grow.

Within twelve weeks after enactment of the bill for special education, 221 institutions of higher education and 50 state agencies had submitted over 700 applications for teacher training grants and research and demonstration projects. A total of 155 proposals were received. Over 500 individuals are receiving or will receive training in education of the handicapped. And the second year response is overwhelming.

But the Division of Handicapped Children and Youth of the Department of Health, Education and Welfare recently published figures on the number of children still needing special educational services. About 75 per cent of the six million handicapped children, or four and one half million, need and are not receiving special help.

These figures do not include the many, many thousands of children who have been handicapped by extreme poverty, who have suffered cultural and educational deprivation to the point that special education must be provided and at a very early age.

I'm sure you have discussed the greatest problem, that of the shortage of specially trained teachers for special education classes. For the 972,000 children who are emotionally disturbed, 97,200 teachers are needed. For the 1,701,000 who have speech handicaps, 21,600 teachers are needed.

In the area of mental retardation the present teaching staff is approximately 20,000. The need in this area alone more than quadruples that number. The problem is compounded by the fact that only about 500 teachers graduate from our colleges and universities each year with adequate training for children who are mentally retarded.

By 1970 we will need over 320,000 teachers in special education.

On January 29, 1963, in his message on a proposed program for education, President Kennedy said, "For the nation, increasing the quality and availability of education is vital to both our national security and our domestic well-being. A free nation can rise no higher than the standard of excellence set in its schools and colleges. Ignorance and illiteracy, unskilled workers and school dropouts--these and other failures of our educational system breed failures in our social and economic system: Delinquency, unemployment, chronic dependence, a waste of human resources, a loss of productive power, and an increase in tax-supported benefits."

He then went on to outline the place the federal government has filled in regard to education in the last several decades. Then he said, "But all this has not been enough. And the federal government--despite increasing recognition of education as a nationwide challenge, and despite the increased financial difficulties encountered by states, communities, and private institutions in carrying the burden--has clearly not met its responsibilities in education. It has not offered sufficient help to our present educational system to meet its inadequacies and overcome its obstacles."

As I mentioned earlier, programs have been initiated which open new doors for exceptional children. But as Congress considers new legislation, I plead with you and I plead with each individual who is concerned about a special handicap to extend that concern to all handicaps. I plead for an end to legislative pressure for one handicap, ignoring all others. I know this is difficult when there is personal involvement and a tremendous emotional involvement but cooperative effort reflected in your organization must be the legislative goal for all organizations.

Conspicuous by its absence in most federal programs benefitting exceptional children has been equal consideration for the gifted child. His needs in education are special needs. Greater efforts in this area, in my judgment are much needed.

The progress that is being made is encouraging. The climate in the Congress with regard to education, and special education, has greatly improved in the last decade. Ten years ago, while appropriating nearly $50 billion for defense without an objection, 31 amendments were offered to cut the less than $1 billion budget for health and education.

Legislation is being considered now which deals directly with mental retardation, vocational education, guidance, counseling and testing, new training programs for teachers of the handicapped, special teaching aids, manpower development and retraining, poverty and economic opportunity, education for the blind, the deaf.

Bills are before the 89th Congress to extend and expand the programs under PL 88-164; hearings are in progress on expansion of vocational rehabilitation programs, on the poverty program too, with much attention being given to Operation Headstart.

Compared to the winter climate of ten years ago, the climate in Congress now suggests that a springtime of growth and progress is upon us.

President Johnson recently said, "...Our wealthy society is tolerating a worrisome burden of wasted human lives.. too many of our people are unschooled, untrained, and underemployed. Too many are physically handicapped. Too many are mentally handicapped. Too many more handicapped for life by the environments and the experiences of their childhood. America needs these talents. We must not and we cannot let them go to waste. We must bear in mind that an undiscovered talent, a wasted skill, a misapplied ability is a threat to the capacity of a free people to survive."

For the thousands of adults who are handicapped, for whom efforts in special education have never come or have come too late, education delayed has indeed been education denied, and this is just as great an indictment of a democratic society as "justice delayed is justice denied." For what is just an affluent society that could have helped but did not! Let history record that at least this generation recognizes the urgency of doing more. Federal action and more community action should and will tell the story. The federal or state commitment of funds is not enough. Personal commitment and personal involvement are required.

One area that has received little attention until very recently is the syndrome of the battered and beaten child. Now there are more and more reports of child abuse. Laws making the reporting of cases of known child abuse mandatory must be passed, and I'm delighted that the House in the Oregon Legislature passed such a bill three days ago. The children who are the victims of such inexcusable parental abuse need very special help. Some are killed, many others receive permanent brain damage making them mentally deficient, and no one can estimate the number of others who suffer permanent psychological damage, nor do we know the extent of it in the single individual. Surely these children in school or when they reach school age deserve special educational attention, for many of them become just as blind to life and to its beauty and opportunity as a child who is born without sight.

Another area equal in importance and need is the area of socioeconomic handicapped. A child of three from a slum who has never seen a book, who has never travelled beyond his immediate and narrow geographical area, a three year old whose parents do not or cannot communicate with him, surely such a child is just as handicapped as a child who is mentally retarded. This child is culturally and educationally retarded and has a desperate need for special education, for compensatory education. This, we now know, must start at age three or four.

And what of the American Negro who for a century has been allowed or forced to slip behind other Americans in social and educational opportunity.

President Kennedy stated the plight of the Negro very clearly when he said, "The Negro baby born in America today regardless of the section or state in which he is born has about half as much chance of completing high school as a white born in the same place on the same day; one-third as much chance of completing college; one-third as much chance of becoming a professional man; twice as much chance of becoming unemployed, about one-seventieth as much chance of earning $10,000 per year; a life expectancy which is seven years less, and the prospects of earning only half as much."

The American poet, Vachel Lindsay, wrote a few lines in which he powerfully stated the plight of the poor, the impoverished, and the oppressed.

> Let not young souls be smothered out before
> They do quaint deeds and fully flaunt their pride.
> It is the world's one crime its babes grow dull,
> Its poor are ox-like, limp and leaden-eyed.
>
> Not that they starve, but starve so dreamlessly,
> Not that they sow, but that they seldom reap,
> Not that they serve, but have no Gods to serve,
> Not that they die, but that they die like sheep.

America must see that her "young souls," whether they be blind, or deaf, or crippled, or emotionally disturbed, or mentally retarded, or speech impaired, or vision impaired, or socially starved, or educationally deprived, or economically impoverished, are not smothered out. These children must be free to dream, to reap, to serve, and to live with opportunity and dignity. And this they shall have through education suited to their needs, because you and others are concerned.

ADDRESS OF SENATOR WAYNE MORSE

It gives me great pleasure to greet you from this rostrum in the major city of my home state. As an organization, I am very happy to welcome you to Portland. I hope your visit will make you want to come back soon and stay longer. However, as much as I should like to expand upon our roses and rhododendron, our climate and our Devon cattle, as the Chairman of the Education Subcommittee of the Senate Committee on Labor and Public Welfare I want to talk with you on a subject which is of great national concern and one in which I have an abiding interest.

The Problem

I do not have to describe to you the size or the complexities of the problem we are facing due to the fact that we have almost five million handicapped children of school age in the United States.

You are the people who are on the firing line of day by day living with these children and their parents. You are the ones who are being pressed to take children when there is no more room in your classes, or when there is insufficient money to organize additional classes, or when you cannot find the teachers to man such classes providing you had the financial resources necessary to set them up. All I can say is that the nation is deeply grateful to each of you who have dedicated your lives to what certainly must be a most gratifying and personally rewarding profession.

We are fortunate that in this great democratic country we have the desire and the drive to educate all of the children of all of the people to the utmost of their potential. You know, as well as I, that this is not true in many of the countries of the world today. One of the measures of a nation's level of civilization is the extent to which it becomes concerned with the education of these children. I am told that but little is being done in developing countries for the education of exceptional children.

The Council for Exceptional Children has long been noted for its dynamic professional leadership in this area of education which encompasses more than ten percent of our school population. The Council is currently the largest organization in the United States serving a wide variety of professionals dealing with exceptional children. I commend the leadership of the Council and the membership which makes such activity possible.

I think that we all recognize the tremendous strides we have made in the last decades toward the improvement of educational facilities for the handicapped child. But it is a little frightening to me when I examine the intellectual wasteland facing literally millions of the handicapped children because adequate provisions for their education have not been made at the local, state, or national levels.

I also believe that many school districts are very sincere in their desire to provide educational facilities for handicapped children but, when faced with the tremendous demands of keeping up with our population explosion, they must make value judgments in terms of the greatest good and all too frequently this means that the handicapped child is lost in the shuffle. In spite of this, special education is rapidly expanding. More and more states are passing mandatory laws making it incumbent upon local districts to provide special education services. Colleges and universities are being pressed to train more and more special education staffs. I am told that if one were to poll the placement agencies at the training institutions one would find that more than four requests come in for every special education teacher trained.

Yet even with all of this ferment of activity, you and I know that we are just beginning to extend the resources of this nation to meet the challenge inherent in the promise of our democracy which is that every child should be educated to the extent of his capabilities. We must be concerned in this country not only for the average person but for the slow learner, the gifted, the emotionally unstable, the crippled, and the group having learning difficulties because of perceptual learning disabilities.

It is difficult to assess the impact of years of neglect, disinterest and, in some cases, unsatisfactory methods of teaching. An example, however, is the fact that in recent years we are finding that one-third of our young men called up for selective service are rejected for mental reasons and another third for physical reasons. Today the physically handicapped (including many school dropouts) constitute a large proportion of the unemployed and many of these individuals are found on public assistance rolls.

I have long been cognizant of the facts, and I am happy to say that many of my colleagues are also, that the physical condition and education of our fellow citizens are significant factors in the progress and greatness of this nation. We would be sadly remiss to press on for greater scientific and technological accomplishments and, at the same time, to neglect the health and education of a large segment of our population.

Federal Accomplishments

Traditionally, education has been a local and a state responsibility. But when one considers that the education of handicapped children is two to four times as expensive as the education of nonhandicapped children it is easy to see that a local district, even with some state support, finds itself in difficulties in these days of financial distress.

It is easy to point out that the salvaging of just a small number of handicapped children or the stimulation of gifted children in a community will in the long run save the taxpayers of that community more than the amount that has been expended for the education of these children. It is about impossible to determine the millions of dollars lost to the national economy because of our neglect of this problem. In addition, any financial consideration ignores the moral and spiritual values inherent in any such consideration.

The US Office of Education estimates that there are approximately 60,000 teachers of the handicapped currently working in the field. It should be pointed out, however, that the best estimate is that 301,000 such trained persons are needed for the 1965 school year and this figure will be increased to 320,000 by the 1970-71 school year. Added to these figures is the fact that many of the teachers currently in the service working with handicapped children are inadequately trained by the standards set in the various states. Any way one looks at the problem it is evident that the shortage of trained staff is critical. Thus, it makes good sense that for the national interest the federal government must support in ever increasing fashion the training of professional staff.

It should be pointed out that the use of federal money to train staff to work with handicapped children is not new. In 1959 a training program to develop leadership personnel in mental retardation was launched through Public Law 85-926. This provided $1 million a year to train individuals and the US Office of Education reports that by the end of 1964 more than 550 individuals were granted fellowships under this law.

In 1961 another federal program was launched. This was the result of the passage of Public Law 87-276 which appropriated $1.5 million a year to train teachers of the deaf. Although the end result of this law was that more than two and one half times as many teachers were trained in 1964 as were trained in 1961, this was no more than enough teachers to keep up with those who were leaving the field. More recently, the Congress provided for the training of professional personnel to work with all types of handicapped children through Public Law 88-164, which Title III amended Public Law 85-926. Because of its scope and financial support it will long be considered a landmark in the improvement of education for handicapped children. I am sure that many of you are aware of the fact that The Council for Exceptional Children was extremely active and helpful in encouraging support for this much needed legislation.

Very briefly, this law provides for $11.5 million in fiscal year 1964, $14.5 million for fiscal year 1965, and $19.5 million for fiscal year 1966 for the training of professional personnel. In the first year of its operation, approximately 5,000 people will have been affected by the support they are receiving as a result of this legislation. It is still too early to assess the total impact of this federal assistance, but it does seem apparent that we have at least made a start in reducing the critical shortage of personnel.

Still another federal program has had, and will continue to have, an impact on the education of handicapped children. This is the institute program carried on under Title XI of Public Law 88-665, more commonly known as the National Defense Education Act. Teachers of handicapped children are certainly eligible to participate in these institutes which offer training over and above the basic courses the teacher needs for certification. Under the provisions of this Act a number of institutions are running workshops specifically for teachers of the handicapped or disadvantaged child. Certainly, it is to be hoped that many teachers of the handicapped will avail themselves of the opportunity to update their training in the specific subject matter areas being offered.

Public Law 88-164 also made it possible for the Office of Education, through its Division of Handicapped Children and Youth, to carry on a research and demonstration grant program. Previous to the passage of this law, research in the area of education was carried on through the Cooperative Research Program of the Office of Education. Initially, two-thirds of the $1 million appropriated in 1957 was earmarked for work in retardation. Since that date, approximately $8 million has been awarded for projects in mental retardation, the visually handicapped, the deaf, speech correction, the physically handicapped, and the gifted. Under Public Law 88-164, however, $5 million has been made available for research and demonstration over the three-year life of the law. In the first year of operation 34 projects were funded. In the second year over 150 applications were received requesting almost $7 million when, in fact, only slightly over $1 million was available for new projects. Every indication points to the fact that you, as professionals in the field, have a tremendous interest in improving the quality of education for handicapped children. Certainly, if you are to carry out the challenge made to you as leaders in this field you will have to continue to evaluate educational processes and procedures and to plan for new and creative ways of educating this large group of children.

Naturally, I am interested in Oregon's participation under the provisions of Public Law 88-164. I am happy to see that my home state received $298,600 for the training of professional personnel from the 1964 funds which were available. I am also happy to see that a research project submitted by an Oregon person has received $182,064 for a project which is to be carried on over a three-year period. I am sure that each of us has not only the right, but the responsibility, to be concerned about what is made available to our individual states. It is only as the individual states plan for and use the available federal money wisely that the goal all of us wish to achieve will be realized. This goal of course is the improvement of the quality of education of handicapped children.

Gifted Children

Although Congress did not include the gifted child in the 1963 legislation, this should not be taken to mean that Congress is not interested in gifted children. What it does mean is that we have not yet decided what the role of the federal government shall be in its support to state and local school systems in their effort to provide high quality education for gifted children. Certainly much of the effort going into the development of libraries, higher education facilities, and research in the use of new media and curriculum development will all have their impact on the improvement of education for gifted children. Certainly there are still some unanswered questions in this area. For example, should we support training grants for the preparation of professional personnel in this area? What kinds of professional personnel are needed and for what kind of programs? Should we start with the development of training programs for the teachers or for leadership personnel?

I am aware of the fact that there is very fine work being done in various parts of the country on behalf of the gifted children. Frequently these efforts come from the higher socioeconomic areas and it would appear that many of the gifted children come from these higher socioeconomic groups. We do have the resonsibility, however, of identifying gifted children from wherever they come and giving children at all levels the advantage of the best possible education. This certainly prescribes early identification and training of these children. I am sure that the efforts to provide preschool programs under the provisions of the Economic Opportunity Act will help educators to identify both gifted and handicapped children so that proper educational provisions can be developed for them. Certainly we will have an opportunity to work with the child who, under the traditional school organization, will not have a chance to learn, who has no motivation to learn, and in many cases, does not have the experience necessary to score high on intelligence tests and thus obtain the benefits of the broadest possible program in school.

Public Law 89-10, The Morse-Perkins Elementary and Secondary Education Act of 1965

Perhaps the most significant recent advance in legislation for exceptional children was contained in the Elementary and Secondary Education Act of 1965 which was signed by President Johnson eleven days ago. It is a statute of which the President has said that all who helped to bring it to pass "will be remembered to history as men and women who began a new day of greatness in American society."

Those of us who heard the President at the White House reception on April 13--and among them, I am proud to say, were representatives of The Council for Exceptional Children, your President, Harrie Selznick, and your Executive Secretary, Bill Geer--will always remember the fierce dedication President Johnson displayed as he spoke of his determination to achieve prompt and effective operation of this new Act.

I mention it to you because of the important legislative history which was made on the measure in the Senate during debate and in our committee report. In effect, we broadened the scope of the children to be benefited by the Act to include Title I, all handicapped children, and in Title V, the gifted child as well.

The original intention of the Department was shown by a memorandum we had received which is printed on page 565 of our hearings record. It reads as follows:

> "Memorandums Received From Department of Health, Education,
> and Welfare, Office of Education, on Points Raised in S. 370
>
> Educationally Deprived Child
>
> "An educationally deprived child is one whose educational performance in the school system is below the grade level appropriate for his age and below the potential of the child because of his general social and economic background. The educationally deprived child may perform at a rate which is normal for his economic and social group but he does not perform at a normal rate on a systemwide, statewide, or nationwide basis.
>
> "Excluded from this group would be the mentally retarded, the emotionally disturbed, the physically handicapped, and others whose condition is not a product of a general social and economic background. In this context, general social and economic background excludes such things as broken homes caused by divorce, the influence of emotionally

disturbed parents, lack of parental control, and other conditions which are not common to a particular economic or social group.

"Included in the educationally deprived group would be children with backgrounds of poverty, and those who have been subject to cultural or linguistic isolation from the community at large."

My colleagues and I were not comfortable with this interpretation since we had had the benefit of the testimony of Dr. Falck of the University of Vermont, who made a powerful plea for services to young people with physical, mental and emotional problems. We were also mindful of the testimony presented by President Selznick of The Council for Exceptional Children which set forth clearly and concisely your concerns in this area.

The Department was urged to reconsider its position. Let me read to you from page 15 of the committee report this section on "Special Education Needs":

"The committee is pleased that testimony presented to it by research scholars and by representatives of organizations concerned with special education, ably supported in executive session on a bipartisan basis, particularly by the Senator from Vermont, Mr. Prouty, was persuasive in establishing the policy of the Department in the administration of the act as set forth in the following correspondence addressed to the Chairman of the Education Subcommittee:

'Department of Health, Education, and Welfare
Office of the Secretary
Washington, D.C., March 31, 1965.

Hon. Wayne Morse
U.S. Senate, Washington, D.C.

'Dear Senator Morse: This is in response to your request concerning the authorization in H.R. 2362, the Elementary and Secondary Education Act of 1965, as it passed the House of Representatives, for Federal assistance for education of physically handicapped children.

'As you know, in section 303 in title III (supplementary educational centers and services) provision is made for use of Federal funds for specialized instruction and equipment for "persons who are handicapped."

'In section 503(a)(10) of title V (grants to strengthen State departments of education) funds are authorized for providing local education agencies and the schools of those agencies with consultative and technical assistance and related services relating to "the education of the handicapped."

'In title I, section 205(a)(1), where reference is made to programs and projects "which are designed to meet the special educational needs of educationally deprived children" and with respect to the number of educationally deprived children in the school district who attend nonpublic schools in section 205(a)(2), the term "educationally deprived children" in our opinion includes handicapped children as that term is defined in title III of Public Law 88-164, approved October 31, 1963.

'If you have any further questions on this matter, I hope you will get in touch with me.

'Sincerely yours,

'Wilbur J. Cohen, Assistant Secretary.'"

"In a similar fashion a question raised by the Senator from New York, Mr. Javits, was responded to by the Commissioner of Education as follows:

'Department of Health, Education and Welfare,
Office of Education,
Washington, D.C., April 2, 1965.

'Hon. Wayne Morse
U.S. Senate
Washington, D.C.

'Dear Senator Morse: In response to your inquiry as to whether the parents of handicapped children would be eligible to participate in the programs under title I of H.R. 2362 as it passed the House of Representatives, we wish to assure you that they would be eligible for appropriate services in connection with the education of their children.

'Several illustrative programs submitted by a panel of eight States included parents as well as students. The importance of parental involvement is well illustrated by a statement from the January 1965 issue of American Education included in an article about the training of deaf children by Mrs. Spencer Tracy of the John Tracy Clinic.

"If parents enter--and they are entering in large and ever-increasing numbers--this wonderful world of learning, and do but half of what we have found average parents can do, their child should have an essential readiness for a formal program of education."

'The same statement applies to other handicapped children. We would encourage the inclusion of language in the committee report which emphasizes the importance of appropriate parental involvement in local programs for the handicapped child.

'Sincerely yours,

'Francis Keppel,
U.S. Commissioner of Education.'"

These two letters and the Committee Comment on Title V from page 34 of the report have clearly established the intent of the Act and the acquiescence of the Department thereto. The Title V comment, to which I have referred reads as follows:

"The Department of Health, Education, and Welfare was queried as to whether section 503(a) of H.R. 2362 was sufficiently broad to encompass consultative and technical services relating to the education of exceptional children.

"The committee was pleased to receive the following statement of the position of the Department on this point:

'Section 503(a) of H.R. 2362 lists examples of programs and activities for which grants may be made under title V (grants to strengthen State departments of education). One activity listed (par. 10) is that of providing consultative and technical assistance services relating to particular aspects of education such as the education of the handicapped...'

> "although the education of academically gifted and creatively talented children is not mentioned specifically in paragraph (10), is is nonetheless a 'particular aspect of education' within the meaning of that paragraph. Thus, grants could be made to states to provide consultative and technical services relating to the education of such exceptional children."

H. R. 2362 is a landmark bill in many ways. I think that you will find it to be a charter bill for exceptional children of all types.

Concluding Statement

I have attempted to review for you some of the legislative activities at the federal level which have an impact on exceptional children. You will recognize, however, that the role of Congress is a limited one. We can pass legislation; we can appropriate funds for the training of professional personnel and for research and demonstration; we can provide funds for the support of programs of various kinds. However, those of us in Congress are well aware of the fact that our efforts are limited to the extent that you as professionals in the field utilize the authority and the funds wisely. Yours is the really big job. For unless the efforts of all of us result in improved education at the grass roots level our efforts will have been in vain, and the ones to suffer from our lack of leadership will be the children in whom we are all vitally interested. We in Washington cannot organize programs for you or do the necessary research and development, but we have tried to make it possible for you to do a better job.

In conclusion, I wish to express my appreciation to each of you for your contribution to this demanding and challenging field of special education. I think it is apparent that President Johnson and the 89th Congress have a continuing interest in all children. The challenge is before each of us and all I ask is that each of us do our part to the best of our ability.

WHY AND HOW

Harrie M. Selznick

Many years ago C. C. Furnas wrote a book entitled "The Next Hundred Years: The Unfinished Business of Science." In this book he made an effort to resolve some of the problems which are of lasting importance to both science and society. Furnas described what had been accomplished, what remained to be accomplished, and what the consequences of some of the alternative solutions were likely to be. This is the kind of sophisticated activity which stirs the imagination. It would be most interesting and worthwhile if some one person or group of persons could be found who would devote their efforts to some of the problems which constitute the unfinished business in special education. In a very understandable sense the business of special education must always remain unfinished because of the multiple factors which exercise influence on both the exceptional pupil who has need for special services and programing and the school services which are made available to him. The resolution of many of the problems in special education will require the collaboration of able persons from many disciplines whose efforts would be monitored and collated by single individuals whose diversified training would provide them with the technical and professional understandings necessary to their responsibilities. While it may appear presumptuous to even discuss the multiple problems of special education, let alone make a contribution to the solution of some of them, I believe good purposes may be served if attention is called to even a small part of our unfinished business and to some factors which have retarded the progress which might have been possible.

Each president of The Council for Exceptional Children has been charged with a responsibility for professional leadership to our organization. In partial fulfillment of their office responsibilities, Council Presidents have spoken to the general assembly of our annual convention and prepared discussions of a timely topic or important problem for our journal, Exceptional Children. To learn more about the issues which our previous presidents considered important and to study the actions which followed seemed to be a most challenging task. The completion of this task required a re-reading of presidents' messages which have been delivered over the more than forty years of our existence as a professional organization. The contributions of other leaders in special education were also reviewed.

In many instances, our president devoted his entire presentation to the activities of the Council. As one reads the various messages he can trace: the growth of membership from a mere handful at the time of organization in 1922 to our present membership of more than twenty thousand; the increase in the numbers of chapters, federations, and of the various committee activities; the developing Student Council for Exceptional Children; a constantly improving publications program; and the change in the location of leadership from a centering in the activities of a comparatively few members to the present time when our operational pattern permits the contributions of all who are able and willing to serve. One finds the earliest mention of the active participation of Council members from Canada in the speech given by President Edward Stullken in 1938 when he indicated his gratification at the large numbers of Canadian members at the Buffalo meeting. Our current Canadian membership exceeds one thousand and is rapidly increasing.

The question remains, however, how did the membership receive the messages of past presidents and why have we not progressed more rapidly along the pathways to solving some of the problems to which our attention had been called? The review of previous messages was directed to this concern: Why have we not taken better advantage of the fine leadership of the past?

The current activities of the Council include professional standards and teacher education, legislation, continuing education, and inservice training, grouping and classification of exceptional children, research needs on curriculum and teaching methods, and diagnostic or clinical teaching. How different are these concerns from those of the past?

Professional Standards

At present The Council for Exceptional Children is conducting a professional standards project which should produce papers on programs of preparation for teachers, supervisors, and administrators of special education. It is anticipated that there will be clarification of the standards which professional educators should meet in order to qualify to teach exceptional children. A statement on professional ethics will also be developed. It may be expected that the final results of this special effort on standards will not only give direction to programs of teacher preparation but will also assist toward standardization of certification requirements and provide a means for accreditation of colleges and universities which undertake the training of personnel for work with exceptional children.

But, is this a new concern and effort of our Council? One of our previous leaders said that it seems desirable that The Council for Exceptional Children should give attention to the supply, equipment, and opportunities for the training of special education teachers (Elliott, 1937). As followup on this statement made in 1937, Dr. Harry J. Baker, president of the Council appointed a committee to investigate these matters. The committee included Elise Martens, J. E. W. Wallin, and John J. Lee.

In fulfillment of his assignment, Dr. Wallin(1937) studied certification requirements. His report indicated a wide variance among the states in their training requirements of teachers. In his concluding statements, Dr. Wallin called for a followup campaign to correct the situation. He said, "What the problem demands is publicizing of the findings, conclusions and recommendations not only in the official organ of the Council, but also in the general educational journals, and among state school superintendents, boards of education, deans of departments of education, heads of institutions concerned with the training of teachers, executive officers of state and national education associations, and members of appropriate survey commissions" (p. 147).

In 1938 Winifred Hathaway, one of our pioneers in the education of the partially seeing, set forth recommendations for the training of teachers of sight-saving classes. Included in her statement was a section on "Where Special Teachers Shall be Trained." She stated:

> Teachers for this type of teaching shall be trained only at accredited teacher training institutions that provide the following:
> A. -A cooperative demonstration class program
> B. -Opportunities for observation
> Such courses shall be directed only by qualified instructors who have had teaching or supervisory experience in this special field (p. 191).

In 1952, William Cruickshank raised this question-Are all universities and colleges equally well equipped to train teachers in all areas of special education? On another occasion he said, "It is my personal feeling that regional schools for teacher preparation should immediately be developed. There is no logic which demands that every state have its own teacher preparation center in this field. There is no logic which demands that a given teacher preparation center should serve the needs of teachers of all types of exceptional children. When we can present a profession which sponsors only programs of preparation worthy of the name, when we can insure the graduation of the most outstanding type of teacher, we shall have a tool in our possession capable of withstanding the Herculean efforts of those who attack the freedom of knowledge from within America and without. Only then can we offer exceptional children the type of teaching which is their birthright" (1954, pp. 148-149).

In 1959, Ray Graham stated in part, "The time has arrived when we must take a determined stand in support of high professional standards in the training of teachers... Standards of recruitment and selection must be formulated and used... The training of each trainee should be received from one approved training center and not secured by roving and hunting for "bargain" credits. This training must be given by qualified personnel and not by proxy instructors" (p. 20)

In more recent years the attention of our membership was called to this most important concern by Jack Birch (1961) when he informed us that a project on professional standards was being initiated which, if it accomplished its purpose, would help to bring into being a nationwide set of standards for the preparation of educational specialists with exceptional children. Additional attention was directed to this problem by Ivan Garrison (1960), Leo Cain (1962), Mamie Jo Jones (1963), and Frances Connor (1964).

We have had a written record of concern for 28 years and now we are finally taking action. Why have we been so slow to heed the wise words of our professional leaders? How do we avoid similar inactivity on important problems of the future?

Continuing Education and Inservice Training

An important section in the series of professional standards conferences will be devoted to the consideration of continuing education. A working paper to which conference participants will direct their attention describes continuing education as the process through which the professional person keeps abreast of the field.

In 1944, John J. Lee stated, "It is being recognized increasingly that boards of education and professional organizations have a large responsibility for promoting professional growth and for providing professional experiences which contribute to mental health. Teachers of exceptional children should attend teachers meetings in their respective schools; have an opportunity to interpret their work to other teachers. . . They definitely need opportunities to visit other classes, institutions and attend professional meetings related to their field. Teachers of exceptional children need unusual and added opportunities for self realization and for self expression. . . the very nature of their work and their training combine to make a wider personal, professional, and social participation necessary" (p. 130).

In an article which appeared in our journal in 1944, Alice Metzner and Paul Voelker stated that a well organized administrative and supervisory program calls for planning for promotion of teacher growth. Basic to this plan is the problem of developing within teachers these attitudes which are favorable to growth.

In 1953, Francis Doyle, then president of the Council, said, "We must insist on well-prepared special personnel for our programs and must interpret to others why such personnel is necessary. Every effort should be made either to employ fully qualified teachers of exceptional children or to make it possible for those not qualified and already employed to complete their training" (p. 2).

The need for continuous training is not restricted to the teacher but extends to everyone who works for or with the exceptional child. It is the unusual person in any field of special education who can keep abreast of the many new developments. New literature arrives almost daily at one's desk from medicine, from education, from psychology, from sociology, from the communication skills, from nursing, and from many other sources. All of these publications have a bearing on our profession. It is vital that one carefully evaluate these materials so that selection may be made and implementation introduced. Few persons have the self discipline which will permit a program of individual reading and evaluation. For the majority, regular participation in courses, seminars, conferences, and workshops is necessary to professional function.

The increased availability of funds for research and demonstration purposes and the increased activity in special education in schools and universities across our country point out the need for a continuous learning experience for each of us. This explosion of new knowledge was anticipated by our leaders of the past. We were alerted to the need for organization in our approach to the dissemination of the new understandings. Yet, we are just beginning to take a careful look at the procedures which are followed by other professions such as medicine, where short courses are offered periodically on specific problems.

Quite possibly our concern should be less with why have we been so slow to take action on the suggestions of our leaders and more with a desire to learn how we may improve upon our practices of the past.

Legislation

A primary activity of the Council has been its legislative campaign to encourage, develop, promote, and facilitate effective national and state legislation. The backbone of education is the legislative structure which makes possible the appropriations and programs necessary to build schools, stimulates the training and employ of professional personnel necessary to good programs, and provides such other services as are deemed necessary to effective learning experiences for exceptional children. Historically, the basic financial support of education was provided by local and state sources. More recently there has been a steady increase in federal support of education. Since 1956, the Council has been actively engaged in studies of state and federal legislation, making appropriate legislative contacts, and providing consultation to both legislative offices and our membership on needed legislative action and effective utilization of that which is currently available. The Council activities in this area have been considerably accelerated in the past four years.

Among the earliest references to legislative activity by the Council was made by Harry J. Baker in 1937. The Council was then concerned with special legislation which would provide federal funds for the educational needs of the physically handicapped. Dr. Baker expressed the hope that other interest groups would give enthusiastic support to this legislative effort. He stated, "If this plan proves to possess the merit we hope for it, aid for the other types of handicapped children may come later" (p. 138).

Although several presidents in their messages pointed out the importance of appropriate legislative activity, it was only in 1960 that Ivan Garrison informed the membership of the formation of a legislation committee which would serve as advisory to the executive committee. The committee was to analyze and report on bills, draft recommendations for annual legislative platforms, implement the platforms by preparing drafts of bills which should be introduced, and perform such other duties as may be assigned to it.

In 1962, Leo Cain pointed out, "Legislation is a matter which cannot be left to someone else and we can only be effective in this area if we consider this of primary importance to our organization" (p. 447).

An important judgment which our membership must make relates to the extent of activity on legislation in which the Council should participate. While our legislation committee continues to perform its responsibilities most ably, and while a network may be organized and poised for action, are there other services which our membership requires which cannot be provided through our current structure? The evaluation of proposed national and state legislation, the initiation of legislative ideas, and the guiding of legislation through the various stages toward enactment, and the provision of informing our membership about the possibilities of completed legislation would require the full time of one staff member of the Council. At present, our able executive secretary is called upon to perform all of these functions. Should this practice be continued? It remains for our membership to take a firm stand on the kinds of services it requires. Once the decision has been reached, a determination must be arrived at on the staff needs for the legislative program we want.

Organizational Structure of Programs

A frequently voiced concern of special educators relates to our current procedures for grouping of exceptional children for educational purposes. The techniques and skills which the special educator brings to the school situation are intended to enhance the learning opportunities for the children with whom he works. Too often the children included within a given instructional group are so placed because of a similarity in a medical diagnostic label rather than a similarity in learning needs. We, in special education, must recognize our areas of competence and direct our energies and attention to the types of groupings which will best permit us to fulfill our responsibilities. The medical diagnostic labels which have served as a basis for class groupings must be carefully evaluated. Quite possibly the range in programs which are made available to exceptional children should relate more specifically to educationally based areas of need.

As Ivan Garrison said in 1960, "I am convinced that we must take a new look at our classifications and our ways of grouping children for education." He asked that we examine our grouping practices in the possibility that they may not provide the best basis for educational purposes. He said: "There must be more advantageous ways of grouping children for learning experiences than by labels and descriptive terms which focus on one aspect of a child's development. . . . One of our difficulties in this problem of grouping and classification is that as professional educators we take the definitions that have emerged in school legislation as a result of legal, medical, and sociological meddling with terminology and try to fit children into these definitions. . . We will have more insight into the problems of teaching and learning as we learn more about individual differences in conceptualization abilities of children" (pp. 460-463).

A prior statement which indicated a similar concern was that of Franc Lord in 1956. He said, "Rehabilitation does not begin its thinking with disability categories. It begins with individuals and plans in terms of individual needs. It defines needs carefully and established priorities for meeting these needs. We tend to specialize our services rather than attempt to make them comprehensive and inclusive. We continue to do this in spite of the fact that we are dealing with heterogeneous groups to which we have fixed our little disability labels. We seem to cherish the labels and even safeguard them as our individual private field of operation. Special education is bigger than mere classifications; bigger than labels, categories, and teachers' credentials. Special education for the handicapped has one major objective-maximum habilitation or rehabilitation of the individual child. The individual child and his constellation of particular needs is our focus of primary attention" (p. 342).

In 1959, Ray Graham issued a similar caution when he asked, "Are we allowing special education to become compartmentalized? Do we worship too much our little idol of our particular area of special education?" (p. 18).

High School Accreditation

The process of evaluation and accreditation which at one time was limited to colleges has been extended to secondary schools. With help from the National Study of Secondary School Evaluation, guidelines for the evaluative process have been developed.

Conspicuous by its absence is the lack of any reference to the provision of necessary services and programs for exceptional children. In the discussion on physical environment for the school program, no mention is made of the physical plant adjustments which are required by some pupils. Evaluation guidelines have been provided on student activity programs, guidance services, health services, curriculum materials centers including library and audio-visual aids, but no mention is made of the exceptional pupil.

Included in the pupil population of every secondary school are children with special needs. The creative child, the academically accelerated pupil, the child who has special requirements because of visual, hearing, speech, or physical handicaps, the pupil with special learning disabilities, all appear in the usual secondary school population.

A basic requirement for evaluation of any school program is an understanding of the philosophy upon which the program is based. If the stated philosophy affirms a commitment to the provision of appropriate learning opportunities for all children, is it not necessary to judge whether or not all children have their needs met? Is it not necessary that guidelines for evaluation of secondary school programs in special education be developed so that evaluation teams take the same careful look at the special education provisions as are taken at other aspects of the school picture?

The assignment given to the team of visiting specialists who visit the school being evaluated can only be satisfactorily accomplished if the team includes persons with competencies equal to their responsibilities. It is therefore suggested that each team include at least one person with training and experience in work with exceptional children.

The review of statements made by the special education leaders who have held various responsibilities within the Council would not be complete were I not to share one or two additional statements with you.

As education has become increasingly scientific so the business of the teacher likewise has become that of a diagnostician. And nowhere has this been more evident than in the field of special education. The diagnostic point of view has been both the cause and the result of special education. It has been the cause since only a keen appreciation and understanding of the problems of those who deviate from the typical have given rise to special education; and it has been the result since the problems of special education can be solved only by the use of the diagnostic method (p. 47)... Even where all the facilities of child guidance or psychological clinics or the services of trained psychologists and medical men are available, every teacher in the field of special education must be a diagnostician. Only so can he or she properly understand and follow the directions of those whose business it is to choose the children for whom special education is provided. Further, the child is ever changing. New situations arise at home, school, and the playground, and growth and development occur. To handle this ever changing situation in the school no blanket method can ever be employed. The recommendations of clinics or supervisors can at best lay down broad highways to follow. The successful following of these broad highways depends upon the teacher's intelligent grasp of where they have come from and whither they are going. It also depends on the skill and insight of the teacher in the thousand and one situations in which children find themselves as they travel this highway from day to day. Every teacher, then, who attempts to engage in special education must seek to enlarge his or her understanding of behavior in all of its ramifications-physical, social, and mental. The child must not be seen as a deaf child, a blind child, or a subnormal child. He must be seen as a whole. Every teacher must be a diagnostician" (p. 48). Who made this scholarly observation? Samuel R. Laycock in 1934.

Those who have been selected for leadership responsibilities during the long history of our Council have placed on record their deep insights and understandings about the unusual needs of our profession. Yet, for all this fine leadership we have much unfinished business to which we must turn our attention. It is to be expected that the solution to many of our problems may not be found. In addition, new problems may present themselves. An important part of being a professional is the willingness to recognize and admit our limitations. The statement from the British writer, Leonard Woolf, is pertinent to this point. "The demand for absolute truth is in inverse proportion to the possibility of providing it. The savage insists upon knowing everything with complete certainty about the universe--how it works and what it all means. The more civilized men become, the more skeptical do they become. And with skepticism they learn to overcome the fear of mental vacuum, of uncertainty about the truth of things, and the meaning of their own existence. It requires no little courage to stand up in the face of the universe and say: 'I do not know'" (Norris, 1939, p. 2).

May we not only have the courage to admit our ignorance of the solutions to some of our unfinished business but the motivation and intelligence to constantly strive for discovery of keys toward solution. Our Council is the centralizing force for professional activity for and with the exceptional child. Through the activities of our interagency committee all of the forces of our country which are concerned for children with unusual educational needs may focus their abilities and attention for good purposes. Our professional standards project is but the initial step toward standardization of programs of preparation for special educators. Guidelines for programs of continuing education should also be available as a result of this effort. The special education teacher must not ably learn how to teach the exceptional child but why certain learning experiences should be introduced in a particular manner and at a given stage in the child's development. Standards for college training programs must be determined so that each student who enrolls for training in a given college has assurance that the staff, the program of training, and the facilities made available to him meet prescribed standards.

Not only should we as professionals meet the basic requirements for employ, but ours is a responsibility for continuing education so that the children entrusted to our service may continue to benefit through our improved understanding of the exceptional child's educational needs. Our efforts to advance our programs should include seminars, workshops, professional memberships, individual reading, and participation in special problem conferences.

The manner in which we group children for instruction also requires our attention. If the medical diagnostic labels do not adequately describe the child's learning needs and if we know how to group children more effectively for instructional purposes, should we not seek terms which are more descriptive of the educational function? On previous occasions, I have suggested a direction for grouping which would include programs for children with communications disorders, for children with behavorial disorders, and for children with special learning needs. A range of programs and services could then be developed for children with these special needs or a combination of them. Clinical teaching could be provided in each of the various classrooms so that a variety of educational approaches might be tried with the individual child. The specific placement of a given pupil would be determined by his educational needs at that particular time. Movement within each special program would then result from periodic reassessment which could indicate a child's readiness and need for a change in his school placement.

In addition to the determination of appropriate grouping of pupils for learning experiences there is need for research on curriculum and teaching methods. In 1935, Harry Latshaw directed several questions to the members of the Council. They included:

1. What are the findings of research as to the subject matter that should be included in the curriculum for specific types of exceptional children?
2. What are the findings of research as to the best method of teaching exceptional children?
3. On the bases of these findings, what changes should be made in curriculum for exceptional children?
4. What changes in the methods of teaching employed? (p. 15).

Our unfinished business is considerable. To this point it would appear that we have indulged ourselves in an inactivity which we can ill afford. The leadership requested of our presidents and others was provided, but we did not heed their directions. We, as professionals, are less prepared for our responsibilities than would have been possible, and the children entrusted to our care have suffered through our neglect.

The strength of our country lies in the provision of universal and appropriate learning opportunities to each of our young people. These abilities and aspirations can only be given every opportunity to develop to their maximum degree as they receive assistance and direction from competent teachers. These teachers, as professionals, must be well prepared to assume their responsibilities through a well defined and recognized program of preparation. Not only is preservice training a necessary requirement for work with handicapped and gifted children, but that training must be provided by teachers of teachers who have studied the field in depth and have practiced in it. Training experiences must not be limited to orientation toward a single approach of a problem in learning which a given child may present, but must include all necessary understandings of the variety of teaching approaches to which children may respond. All known avenues for learning and all known devices for teaching must be utilized.

The recent stimulation to advanced study which was provided through the provision of federal funds for leadership training, research and demonstration, and teacher institutes should permit us to make more rapid strides as we strive to bring our practices more nearly in keeping with the guidelines our leaders have provided. Even as our fund of knowledge increases, we must recognize that we will always have considerable to learn. Each of us has need for a program of continuing education. We will never have learned enough as long as there is the possibility we may discover something of value from which some child may benefit.

My purpose in reminding you of the various expressions of leaders will only prove of value if we organize for improved action in the future. As Dag Hammerskjöld said in his book, Markings, "Do not look back, and do not dream of the future. It will neither give you back the past nor satisfy your daydreams. Your duty, your reward--your destiny--are here and now."

It is as we carefully and thoughtfully approach our responsibilities of the present and plan on a practical basis in anticipation of the newly developing needs of exceptional children of the future that we will be equal to our charge. And, central to this girding for our work is The Council for Exceptional Children. If the handicapped and gifted children of our world are to be shaped in beauty, wisdom, and virtue, we must be the sculptors. These young people have no others as ready or well prepared and skillful to serve them.

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LOOKING BACKWARD

William Sloan

Slowly, I opened my eyes and looked about me. I was in a strange room. I was sitting in a comfortable chair and felt very rested and fresh. A pleasant, gray haired man sat in a chair opposite me.

"Who are you?" I asked him.

"I am Dr. Leete, and I am pleased to be your host. Please accept the hospitality of my house." He nodded his head slowly.

"Where am I?" I countered.

He replied in a gentle tone, "I know you must be confused, but please accept my assurance that you are quite safe and sound."

He was quite right about my being confused. I had awakened in a strange place with no inkling of how I came to be there.

Dr. Leete continued in a soothing tone, "You are still in Boston, where you went to sleep, but in another building."

"But why am I here?" I pursued. I was so confused, I even considered asking him who I was.

He must have sensed this. My own memory told me I was Julian West, a teacher at the Fernald School near Boston. Dr. Leete confirmed this but added a most amazing bit of information. It seemed that I had allowed myself to be mesmerized in 1887, when I was 30 years old. Through some fantastic accident, I had remained in a state of suspended animation for 113 years. It was now the year 2000. Dr. Leete told me that I had been subjected to thorough medical examinations in the last few days, and physically and biologically I was still a 30 year old man.

During the ensuing week, Dr. Leete attempted to bring me up to date on what had occurred during my century of sleep, and the kind of society in which I would now find myself. I also had the great pleasure of becoming acquainted with his daughter, Edith, a most beautiful, charming and witty young lady. I must confess I was shocked frequently by her frankness in speech and manner which was quite in contrast to the prim, ladylike bearing of Miss Edith Bartlett, my fiancee in the 19th century. In spite of this contrast, I was haunted by a strange kind of similarity between the two Ediths. Something about Edith Leete' s mannerisms made me think of Edith Bartlett.

In the course of our many conversations, Dr. Leete had covered much of the social and economic transitions of the 20th century. It seemed quite natural, in view of my work with exceptional children, that sooner or later we would get around to that topic. I will now relate our conversations in that area of concern.

> "I should not fail to mention," resumed the doctor, "that for those too deficient in mental or bodily strength to be fairly graded with the main body of workers, we have a separate grade, unconnected with the others, a sort of invalid corps, the members of which are provided with a light class of tasks fitted to their strength. All our sick in mind and body, all our deaf and dumb, and lame and blind and crippled and even our insane belong to this invalid corps and bear its insignia. The strongest often do nearly a man's work. The feeblest, of course, nothing; but none who can do anything are willing quite to give up. In their lucid intervals even our insane are eager to do what they can."

"That is a pretty idea of the invalid corps," I said. "Even a barbarian from the 19th century can appreciate that. It is a very graceful way of disguising charity and must be grateful to the feelings of its recipients."

"Charity!" repeated Dr. Leete. "Did you suppose that we consider the incapable class we are talking of objects of charity?"

"Why naturally," I said, "inasmuch as they are incapable of self-support." But, here the doctor took me up quickly.

"Who is capable of self-support?" he demanded. "There is no such thing in a civilized society as self-support. In a state of society so barbarous as not even to know family cooperation, each individual may possibly support himself, though even then, for a part of his life only. But, from the moment that men begin to live together and constitute even the rudest sort of society, self-support becomes impossible. As men grow more civilized and the subdivision of occupations and services is carried out, complex mutual dependence becomes the universal rule. Every man, however solitary may seem his occupation, is a member of a vast industrial partnership as large as the nation, as large as humanity. The necessity of mutual dependence should imply the duty and guarantee of mutual support. And that it did not, in your day, constituted the essential cruelty and unreason of your system."

"That may all be so," I replied, "but it does not touch the case of those who are unable to contribute anything to the product of industry."

"Surely, I told you this morning, at least I thought I did," replied Dr. Leete, "that the right of man to maintenance at the nation's table depends on the fact that he is a man and not on the amount of health and strength he may have so long as he does his best."

"You said so," I answered, "but I supposed the rule applied only to the workers of different ability. Does it also hold for those who can do nothing at all?"

"Are they not also men?"

"I am to understand then that the lame, the blind, the sick, and the impotent are as well off as the most efficient and have the same income?"

"Certainly," was the reply.

"The idea of charity on such a scale," I answered, "would have made our most enthusiastic philanthropist gasp."

"If you had a sick brother at home," replied Dr. Leete, "unable to work, would you feed him on less dainty food and lodge and clothe him more poorly than yourself? More likely far you would give him the preference, nor would you think of calling it charity. Would not the work in that connection fill you with indignation?" (Bellamy, 1926).

Such a concept staggered my imagination. I recalled in my own day that we had regarded people in terms of classes. People were born to a certain station in life and were expected to remain in that station. But here I was faced with a concept where there was no such thing as social class and that Dr. Leete was telling me of what was essentially a classless society. I remembered how in my time we had been confident that on the basis of the works of Charles Darwin and Sir Francis Galton and the more recent discoveries of Father Gregor Mendel that there was scientific evidence for such biological differences on an hereditary basis. I said to Dr. Leete, "What about the scientific evidence for differences in people?"

"Well," he replied with an indulgent smile, "you happen to have lived at a particular time which was really a transitional period. Let me recall for you some of the background of what had happened up to your time and then perhaps I can bring you up to date."

He settled back in his chiar, puffed for a few moments meditatively on his cigar, sipped his drink and then he looked at me with an earnestness reminiscent of the attitude of a tutor trying to impress a child.

"It is hard to know where to begin in discussing the history of what has happened to those who are inferior in one way or another--whether physically or mentally. I should point out to you, however, that one cannot evaluate the history of the disordered whether mentally or physically in terms of just the discoveries and thinking about this particular group of people. These things must be evaluated within the total social, cultural, and philosophical currents of the time. Attitudes toward these people are not independent of the general culture."

"Well," I said, "I think I can see that but do not the scientific discoveries of a given time dictate what the cultural attitudes will be?" I asked.

"Quite true," he replied, "but it is really a reciprocal relationship, and, as I think I can show you, the reactions of the culture to some of these phenomena show quite a lag. A generation or more may go by before the culture can accept new findings and change its attitudes and opinions and adapt itself to a different way of thinking about things. And in spite of this, certain remnants of some of the old cultural attitudes remain and take on the cloak of what we call folklore."

"I suppose that is true," I suggested, "but you mentioned something about my having lived in a period of transition. Perhaps you could explain this to me."

"Oh, yes," he replied, "but I am somewhat uncertain as to where to begin. You see there is almost an infinite regression in trying to describe certain phenomena because nothing is new and occurs by itself but depends upon antecedents, and one could continue to go back indefinitely in this way. However, I will try to give you a few highlights to bring you up to the time when you went into your sleep and see if I can explain the historical background.

"You recall," began Dr. Leete, "that we were discussing the period about the time when you fell asleep in 1887. I would like to go back about 30 years before that time to point out several occurrences which have left their mark upon us even to this day. If we take a twenty year period centering around 1850, we find that Karl Marx wrote Das Kapital and a hundred years after that it showed its mark in the cold war period that followed World War II. Of course, you don't know about this now but you will before we get through. For our purposes the basic importance of Marxism is the emphasis on the modifiability of man and the assumption that there is some equality in man's original nature. Now you know that this is not an original thought either because a hundred years before Marx, Rousseau uttered somewhat the same kind of thing about the 'natural man.' Another event that occurred in this period was the thing that I had mentioned yesterday about Gregor Mendel and Charles Darwin. While Darwin pointed out that species did follow in some kind of natural order there was modifiability by the process of what he called natural selection. Mendel's work, on the other hand, pointed quite basically to what has become the science of genetics.

"Now these three events laid the foundation for much of the confusion and discussion about the physically and mentally handicapped which followed in the next hundred years. The battlelines generally were drawn around the twin concepts of heredity and environment, or nature and nurture. We shall see in just a little while how these became bitter, emotional controversies and how, as is true of so many things attempting to fit nature into clear cut dichotomies, it just does not work. It was a long time, however, before it was finally realized that there was little or no basis for determining what characteristics are due to one or the other and there was little merit in trying to do this because it really did not matter. The basic fact is everyone is a product of the combination of both and it is of little consequence how much of each since they interact with each other and one affects the other.

"What is not generally realized, however, is that some other things were going on about the same time which had an effect on what happened later to the retarded. For example, at about the same time the French novelist, Flaubert, wrote his novel, Madame Bovary. This was really the first attempt to depict life as it really was. It was a realistic story which laid the foundation for what came to be called the naturalistic school or writing. Although Flaubert wrote the first naturalistic novel, the greatest efforts in this direction was a series of 20 novels written by Emile Zola during the latter half of the 19th century, depicting life in France from the point of view of the people who worked in slaughter houses, farmers, miners, street walkers - all walks of life - the culture as it actually was. At about the same time the same kind of writing was going on in England. Charles Dickens' works were essentially a cry against man's inhumanity to man. In our own country we had a lag of some 30 to 50 years and it was about 1910 when Upton Sinclair wrote a series of novels about oil, labor and other areas showing some of the same evils in this country. You see you lived in the time when the Industrial Revolution was at its height. This was a time of free enterprise, of laissez faire in economics, a period when people were expected to look out for themselves, individualtity was at its height and everybody's position in life was predetermined so there was no point in trying to change it. Those who could not keep up, just did not have it. Man was not responsible for his fellow man, and it was everybody for himself."

"Well," I started to protest, "I did not realize that this kind of an interpretation could be put on things. Aside from the novelists did anybody else recognize this state of affairs?"

"Oh sure," Dr. Leete pointed out. "What was true in literature also was true in the other arts. Just three years before you fell asleep, for example, there were two painters who were trying to do the same kind of thing as sort of a social protest. Van Gogh, for example, painted his powerful picture called 'The Potato Eaters' which showed the grimness, the misery, the stark hunger of coal miners sitting down to a meal of cold potatoes. In a somewhat lighter vein, in the same year, 1884, a stunted French artist, named Toulouse-Lautrec, was painting his pictures showing the seamy side of Paris life in all its stark realism. This was a marked protest against the romanticized idealistic paintings of the prevalent impressionist school of the time. In our own country, this style of painting called the 'Ash Can School' reached its height in 1913 in the famous Armory Show. We seemed to lag about 30 years behind Europe."

"But what was happening to the retarded during this period?" I questioned.

"Well," Dr. Leete replied, "during your time Seguin's doctrines were at their height. Institutions for the mentally retarded, starting with Howe's, were built all across the country and they were truly educational in their concept. They accepted only those children who were of school age and who could be restored presumably to a higher level of functioning. The workers in this field tried assiduously to apply Dr. Seguin's methods but slowly began to realize that they were not meeting with much success. Then, due to public pressure and the needs of parents, they began to admit more and more children who were less capable of profiting from training. They soon became crowded and the workers despaired of trying to achieve much in the way of training or education. The situation at this time was not nearly as bad as it was to become about 30 years later, but the trend had started."

"What happened to make it worse?" I asked.

"Let's jump to about the year 1910 to see if we can take a look at the picture as of that date in this country."

"Fine," I agreed.

Dr. Leete settled back in his chair, put his fingers together across his chest, crossed his legs, looked at the ceiling through a cloud of smoke and continued.

"The efforts of the novelists and the artists were beginning to make an impression in this country. This became a time of great social upheaval. This was the period that saw the first White House Conference on Children in 1910, child labor laws were enacted, anti-trust laws were being passed, attacks on the twin evils of sweat shops and housing with their companion evils of disease, prostitution and delinquency were going on. Great impetus to the housing and sweat shop reforms was given by the tragic Triangle Fire in New York in which a number of girls, seamstresses, were burned to death because the building did not have proper fire safety devices. There were some cultural upheavals going on. I mentioned Upton Sinclair. It was during this period, too, that the rise of the American Labor movement occurred, even though these were at the price of actual pitched battles and death. This was also the time when there was much publicity given to municipal corruption and graft by Lincoln Steffens and his group who were called the Muckrakers. It was during this period, too, when the agitation for female suffrage and prohibition was going on, and during this same time the income tax law was passed."

"Well," I interposed, "this seems like a period of great advance to me. It appears that we were making much progress - there were great strides. I am amazed to learn of all of these movements going on, but I can see in the light of the perspective you present that were due. In my own day all of these things would have been considered quite radical and unthinkable, and yet I could see how they were perhaps inevitable. But from what you tell me, it would seem that the mentally retarded should have profited greatly from this general undercurrent of social reform and progress."

"So it would seem," Dr. Leete grinned. "Yet, the reverse was true as far as the mentally retarded were concerned. This period of the second decade of the 20th century was perhaps the nadir of the history of the retarded. It was the absolute low point."

"But why?" I asked. "It seems to me quite inconceivable how this could happen."

"Well there is a strange set of circumstances," Dr. Leete suggested, "that combined to produce such a situation. Let me see if I can explain it. I think perhaps we can frame this in terms of triads. Two sets of triads seem to be operating. The first set of triads concerns propositions that were advanced concerning the feeble-minded as they were called in that day. First, on the basis of the studies of Mendel and Galton and on the basis of family tree studies by Goddard and Dugdale. it was pretty well accepted that mental retardation or feeble mindedness was hereditary. Feeble mindedness was considered to be a genetic trait and was passed down from one generation to the next. Experts of the day estimated that the incidence of mental retardation due to heredity was upward of 80 percent. I must point out an anomaly in this connection. Dugdale actually wrote his study of the Jukes in the 1870's. He was a prison sociologist and in his work he implied that the degraded individuals in this family tree were the product of the poor environments in which they were raised. When the study was reinterpreted by Goddard about 1910, at the time he wrote his work on the Kallikaks, he considered Dugdale's work to indicate the hereditary basis of poverty, disease, illegitimacy, alcoholism, prostitution, mental retardation, epilepsy, and other things.

"The second point in this triad," he went on, "is that in 1913 the same Dr. Goddard, who brought the Binet test to this country, did a study at the Vineland Training School in which he examined some 330 patients with the Binet and a year later reexamined them and found that the average IQ had not changed. He advanced, as a result of this study, the proposition that the IQ is constant, and here I am taking some liberties because the IQ itself was not invented until 1915, some two years later. But, Goddard's proposition was that the mental levels remain the same. He proposed that since the mental levels did not change there was no point in trying to improve the retarded since they were incapable of learning. Again I must point out an anomaly because at that same annual meeting of the AAMD in 1913, Dr. Kuhlmann of Minnesota read a paper which gave some contradictory results but this paper did not receive as much notice as Goddard's. Goddard's concept of the permanence of the condition became the prevailing one.

"The third proposition in this triad is that the mentally retarded, by and large, are delinquents. This was based upon a study done at a state institution which showed that those committed to the institution were guilty of being untruthful, untrustworthy, immoral, sexually delinquent, thieves and liars. Additional studies of prison populations showed an apparently high incidence of feeble mindedness. This situation came to be known as "The Legend of the Feeble Minded." Fernald described the legend in a 1916 paper entitled "The Imbecile with Criminal Instincts." Description of the feeble minded according to this legend, conveyed the impression that they were almost invariably immoral, most of the women bore illegitimate children, nearly all were antisocial, vicious and criminal; they were highly dangerous people roaming up and down the earth seeking whom they might destroy."

"How dreadful," I gasped. "How could such a thing happen?"

"Well, you see," Dr. Leete pointed out, "we come again to the interaction of culture and science. This triad did not occur in a vacuum. What you are not aware of is that the immigration from Europe which was going on in your time swelled to a tidal wave at the turn of the century. In addition, the preponderance of immigrants from northern and western Europe shifted to southern and eastern Europe. Of course, the great industrial expansion and opening of the West welcomed this supply of cheap labor. However, many of the immigrants settled on the Eastern seaboard. This resulted in slums, sweatshops, crime, and other things we discussed."

"Yes, but what has all this to do with the mentally retarded?" I protested.

"I'm coming to that," said Dr. Leete. "Some of the 'old settlers' who were imbued with the Victorian ideal of class consciousness and who had been impressed by the idea of genetic transmission - you know - a butler remains a butler and his son becomes a butler, etc. - became fearful that continued importation of so-called inferior stock would lead to intermarriage and ultimate dilution of superior stock. Thus, they feared that America would degenerate by continued breeding of 'inferior' races. So a group of them, led by Davenport, a geneticist, formed the American Eugenics Society which had its origin in the Cattle Breeders Association. The eugenists set out to find evidence for their beliefs and they eagerly seized upon Goddard's work as 'scientific' evidence supporting their beliefs. The Legend of the Feeble Minded was made to order for them. As a consequence, the general spirit of social reform included the idea that a resolution of the problem of the feeble minded with criminal instincts was part and parcel of a good reform movement. The cry was taken up by magazines, women's groups, and lecturers. Davenport's group went around to state legislatures advocating laws designed to cope with the problem."

"What kind of laws?" I asked. "What did they propose?"

"Now we come to the second triad," Dr. Leete said. "It is an imposing phrase. Euthanasia, sterilization, and segregation."

"That does sound forbidding," I laughed. "What does it all mean?"

"Well, let's take them in order," he said. "First, euthanasia. This was sometimes popularly known as mercy killing. This was not a new idea, having been practiced in ancient Sparta and even in some primitive South Sea Island cultures in the 20th century. However, in a Judeo-Christian culture it was never accepted too seriously. The eugenists did not openly advocate this although some may have held this view. The most effective reaction to this idea came when a horror stricken world saw the depths of human cruelty and degredation that occurred in Germany several decades later when this philosophy was carried out to its logical conclusion. Yet in spite of this the idea was still advocated with some reservations in one of the most authoritative textbooks on mental retardation, Tredgold and Soddy, as late as the 1950's. However, it never seemed to catch on."

"Well, I'm relieved to hear that," I uttered with a sigh of relief. "What about sterilization?" I asked.

"That's another story," he smiled. "It seemed to catch on much better. You see, the eugenists argued that as long as feeble mindedness was hereditary, then if we just sterilized them we could wipe the condition out in a few generations. They cited figures to show that in one generation it would be possible to reduce feeble mindedness by from 15 to as much as 36 percent. Their arguments were so effective that in 1907 Indiana passed the first sterilization law. Other states followed suit and eventually some 29 states had such laws. The culmination came in 1927 when the Supreme Court ruled the Virginia statute constitutional and Justice Holmes uttered the phrase 'three generations of imbeciles are enough.'"

"Well," I ventured, "did sterilization work?"

Dr. Leete chuckled. "We'll never really know," he said. "It was carried out with some vigor in a few states for a couple of decades, but no really objective evidence was accumulated. The law applied to mentally ill and criminals as well as to the retarded, and public feeling was too divided. Religious and ethical questions became involved. The whole thing took on the aspects of a crusade rather than an objective procedure. Unequivocal evidence was hard to come by."

"How did it all turn out, then?" I asked.

"As with euthanasia, public apathy set in when the principles were applied with too much vigor in Nazi Germany. A wave of revulsion set in. By the 1950's it became pretty much of a dead issue. Too much evidence had accumulated showing a large variety of other possible causes of mental retardation, as well as much evidence to discredit the family tree type of study. Some still advocated sterilization, but they had shifted their ground to arguing for it as a method of social amelioration for people too poor or too incapable of raising large families. But people saw other means of accomplishing these goals, such as improving living standards and birth control."

"What about segregation?" I pursued.

"This became the program of choice by default in view of the failure of the other two," he pointed out. "The rationale was that if the retarded prey upon society, and propagate their own kind, then placing them apart from society and keeping them from breeding, would accomplish the purpose. In addition, since they were incurable it would not be necessary to waste money on teaching or training. They could do simple work to help in their maintenance and further reduce the drain upon funds."

"How was this accomplished?" I asked.

His reply carried a touch of bitterness and a trace of contempt. "Large institutions were built away from the centers of population. Three story buildings with bars on the windows and locked doors became the order of the day. Strict segregation of the sexes was practiced. Cruel discipline and harsh punishment replaced kindness and human feeling. Overcrowding, understaffing, bleakness, hopelessness, and despair became the lot of the retarded. Fun, laughter, play, and exuberance were frowned upon. The situation was not much better than it had been in the Middle Ages. In some respects it was worse, since now there was no hope for recovery or eventual release. Now, they were locked up - pariahs." He shook his head, as if to get rid of some unpleasant thoughts.

I was aghast. How could man be so inhumane? Such a situation cried for a Dickens. I asked Dr. Leete, "How could this happen? Why?"

He pulled up in his chair and hunched his shoulders as if he were prepared to spring to an attack. He snapped, "Here is a lesson that must be learned. Remember, all this was done in the name of social reform based upon what was thought to be respectable scientific evidence. But let's look at our first triad." He held up three fingers and ticked them off one by one. "One: Hereditary transmission? Based on family tree studies, no control of one important variable, questionable genetics utilizing generalizations from plants and animals and applied by a dubious analogy to humans. Two: Criminality? Based on data from an institution which accepted retardates because they were delinquent. No awareness of large numbers of retarded not in institutions. Three: Cannot profit from training? Based on the false notion that learning ceases when mental growth ceases. So you see," he concluded, "that's what happens when one's enthusiasm outstrips his facts. Conclusions are based on poorly controlled experiments, biased samples, and incomplete understanding of theoretical concepts. Maybe it was summed up later by Fernald when he recognized what had happened and said 'We generalized from too few facts.'"

"Then I suppose," I prompted, "that when the facts became known all this was corrected."

"Oh, yes," Dr. Leete granted, "but not for some time. The propaganda of the eugenists was well applied. For example, they succeeded in getting through the Congress in the 1920's an immigration law that set quotas for each country based on the proportion of the population already in America in 1900. In spite of changing world conditions these quotas were not challenged until the 1960's. Also, in spite of new evidence, no appreciable changes in attitudes toward the retarded occurred until the 1950's. Public opinions and ways of thinking change slowly."

"What caused the shift?" I asked. "How did it come about?"

Even as I asked these questions I became aware that I had been thinking of Edith. And suddenly I was struck by the thought "Which Edith?" The one I had left behind in the 19th century or the one here in the 21st. Feelings of guilt and disloyalty assailed me. Could I be equally attracted to both? Was one really the embodiment of the other? What was there about Edith Leete that made me think of Edith Bartlett? I became weak trying to fathom the mystery.

Perceptive Dr. Leete noticed my distraction and tactfully suggested some refreshment. We had a cool drink and strolled in the garden for a bit. He pointed out some of his prize flowers and told me how he was able to raise them even in an inclement climate by controlling the subsoil chemistry and humidity through a system of radioactively generated underground coils. While this confused me it at least served as a diversion. After lunch we returned to the library.

Dr. Leete resumed the conversation. "Before lunch you asked about how this sad state of affairs was corrected. I suppose we can again realize the effects of culture on science and vice versa. World War II was fought in many places by millions of people. Yet the issue was basically a simple one. Perhaps it was best explicated in the Atlantic

Charter. The Four Freedoms had an earlier version - 'am I my brother's keeper?' - expressed centuries before. At any rate, perhaps unconsciously, people in the Western World assumed a greater concern for their fellow man. One concrete expression of this was the Marshall Plan."

"But what has all this to do with the retarded?" I interrupted.

"Well, I was coming to that," explained Dr. Leete. "On the basis of an accumulation of facts the old attitudes toward the retarded were no longer tenable. But the public at large was generally unaware of this. At mid century a group of parents of retarded children organized with the express purpose of correcting this condition. Their success was remarkable. With missionary zeal they spread the gospel. Then when the President of the United States took the lead in directing attention to the problem the public really developed an awareness, an acceptance and an understanding. But this was possible only because the National Association for Retarded Children had laid the groundwork. Actually, our present program has as its foundation the work started back then."

My curiousity was piqued. I needed to know how society had finally worked out a solution. I asked Dr. Leete to tell me the present status of the retarded.

He smiled. "We don't have any retarded," he said.

"What?" I gasped. "What have you done with them?"

"Oh, don't get excited. What I mean is that we don't use the term, retarded, in the sense that you did to refer to a special class of citizens. Actually, you did not even consider them as citizens in many respects, such as voting, marrying, driving cars, and so on. No doubt the same people are with us today. They are those we refer to as Wunsigs."

"Wunsigs?" I said. "What is that?"

"You see," he replied, "we found some time ago that the ideal of equality of all men was very fine, so far as it went, but that in actuality it applied to political and economic equality, as you see it applied in our society today. However, we recognized a definite scale of graduation in biological qualities. These were quite well described by a normal distribution. In order to develop the most efficient methods of training and development for all our children, so that we could foster the greatest realization of potential for each, we grouped them roughly into large categories based on standard deviation units of the normal curve. We utilized a large variety of measurement techniques including educational, psychological, social, biological, and so on, and then in terms of regression equation in which each aspect of functioning was appropriately weighted, we assigned each person to a segment of the normal curve. It so happened, through popular usage, that those in the group below one sigma come to be called Wunsigs."

A light dawned. It was my turn to smile. "Well," I said condescendingly, "you have simply substituted terms. What difference does it make whether they are called feeble minded or Wunsigs?"

Dr. Leete bristled. He cleared his throat and said, "It makes quite a difference. For one thing, we don't cling to your dualistic notion of mind as separate from body. We recognize no such artificial distinctions as mental and physical. Please remember that I pointed out that all aspects of functioning are taken into account in evaluating a person. We are not so concerned with whether his disability is in a leg, a liver, a cortex, or a biochemical dysfunction. We are interested in what he can do, regardless of what the basis is for his difficulty. Our classification is a functional one. In the second place, we have no qualitative distinctions. People are not considered inferior or second class citizens because their limitations are of one kind rather than another. To us it is evident that everyone has limitations, and all citizens are equal as long as they work to the highest level of which they are capable. Our Wunsigs are as important to us and as cherished as those in the other segments of the distribution. The jobs which they can do and do well are as necessary for our society to function as the jobs anybody else does."

As Dr. Leete spoke I began to grasp the import of his words. I could see that what he said made sense for some of the retarded but I could not help remembering the many people in state institutions who did not seem to fit into his scheme. Many were children and many were helpless. What jobs could they do? Being somewhat confused by his terminology I asked, "Surely you are not speaking of all the mentally retarded? What about the idiots, imbeciles, or severely retarded? How do you identify them?"

He puffed deeply on his cigar and gazed at the cloud of smoke. I could see that he was trying to think of a way to make the situation clear to me.

"Please remember," he finally replied, "that our approach is as devoid of emotion as we can make it. Now I recognize, as well as you do, that there are all kinds of Wunsigs. Even 50 years ago, over one hundred different causes had been isolated. Today there are many more due to discoveries in biochemistry, physiology, prenatal development, genetics, and many other areas. Of course, we have succeeded in preventing a number of the conditions present in your day, also through research. However, much of it is still with us. Since we do recognize the situation, we have approached it in a rational manner. To begin with, we feel that early and expert identification is a large part of the problem. Consequently, we have set up clinics in all large population centers where free diagnostic services are available. For more remote areas we have traveling clinics which visit regularly. Physicians, parents, and specialists in maternity and infant care are alerted to possible signs of reduced functioning. These people are urged to refer the child to the diagnostic center. There the child is registered and is followed from then on. Progress is noted and programs are recommended. Even before the child is born there is premarital guidance and advice in terms of the disposition of the parents either physiologically or genetically to have unsound children.

"Before I go on to describe the course of the child's life, let me point out that at each stage in his development the child is identified in terms of his age and functional level. These designations are simply numbers of categories and are used only as a convenient reference to a group having a certain treatment program. It is quite the usual thing for a child to fluctuate from one category to another. Generally, this in the direction of improvement. When it is not, we know we need to reevaluate our program for him."

At this point he got up and said, "We have been sitting for too long. Come, let's take a drive around the city and maybe into the country a bit. Perhaps, I can show you some things that will be better than explanation."

"Fine," I said. "I would enjoy that."

With that we went to the roof of the house and got into his atomcar. This was what looked like a comfortable carriage without wheels. It had lounge type seats and windows all around. He took a small card out of a receptacle and punched a few holes in it with a stylus. Then he put the card in a slot and immediately we were off the ground and travelling above the rooftops.

"What makes this stay up?" I asked in a trembling voice. I was mortally afraid we would crash to the earth at any moment.

Dr. Leete grinned at my discomfiture. "Don't worry," he said, "we are quite safe. The card I put in the slot contained the destination I punched in. This is fed to a small computer in the back which in turn feeds the data to the six jet engines. If you look you can see two small pipes from the engines protruding from your side of the vehicle. By varying the jet power, the direction and speed are controlled by the computer. Power comes from a small nuclear reactor in front."

I did not pretend to try to understand. I looked out and saw hundreds of similar atomcars filling the sky, moving in all directions.

"How do you keep from hitting each other?" I asked.

"Each car is radar equipped," he answered as if I could understand. "The computers get the radar signals and change speed or course automatically if another vehicle is in our path. It's easier, of course, because once I feed in our destination, the computer determines our direction and selects a predetermined altitude. For example, all north bound traffic is at 5000 feet, north-west at 7000 feet, and so on."

I then noticed that cars at each level all travelled in the same direction. Suddenly all the atomcars stopped and hovered in one place. None moved. I got excited.

"What's the matter?" I asked.

"Nothing to worry about," he grinned. "This is Tuesday and we are in the path of the weekly Moon Space Ship Excursion. There it is now," he pointed.

I looked out and saw what I had thought was a tall building slowly rise from the ground and shoot straight up. As it ascended it picked up speed. As it passed us, I waved back to the smiling passengers who seemed to enjoy the whole thing. As it passed out of sight, our flight resumed. We flew over the city and out over the suburbs. Finally we came to a wooded area that had two one-story buildings set on it. We landed in a clearing between the buildings and got out.

"Where are we?" I asked.

"This is a combined infirmary and research station," he said. "It is devoted to care and research for the Wunsig AI group."

"What do you mean by Wunsig AI?" I queried.

"Maybe I'd better explain," he said as we strolled toward the buildings. "Back in 1955 Sloan and Birch developed a two dimensional scheme which we found handy in trying to distinguish between various types of Wunsigs. Along one dimension were age groupings A, B, and C. A was the preschool age group, B the school age, and C the adult. On the other dimension were levels of function with I representing the most severe, II the moderately retarded, III the mild, and IV the borderline. Thus, a B-II would be what some called the trainable, a C-III was a mildly retarded adult, and so on. It comes in handy in talking about levels and programs. Our goals become efforts to raise each one from one level to the next whenever possible."

He stopped and pointed to one of the buildings. It was a long structure which seemed to have windows in place of walls.

"Let us go in," he said, taking my arm. "This is the infirmary. In here we have those infants who are bedfast and need complete nursing care. They are called Wunsig AI because they are infants and are most severely retarded. Please notice the lack of any mention of 'mental.' This is not their basic problem. The 'mental' is only one aspect of it, and not a very significant one at that."

We entered the building and I was struck by the atmosphere of light, freshness, and cleanliness. On each side of the corridor were rooms with four cribs in each room.

A nurse was available in each room. Through the entire building there was the sound of soft, soothing music. It seemed to come from the walls. I asked Dr. Leete how this was done. He then told me some amazing things about radio, air conditioning, nuclear energy for heat and power, and other which I found it difficult to comprehend. He showed me how from any point in the building, by simply flicking a switch, you could see and talk to a person anywhere else in the building.

We looked at the children in the cribs. Time had not wrought much change. I saw the same kinds of cranial anomalies, cerebral palsies, mongoloids, and others that were present a hundred years before.

"Well," I said, "at least you haven't been able to change people as much as you have the physical world."

"Quite right," he replied. "However, what you see here is the residual we are trying to eliminate. We are working on the causes of these conditions and our progress is satisfactory. For example, fifty years ago about seventy percent of institutional cases were in the category then called 'severe.' There were about 90,000 such institutionalized cases in the country. We recognized early that the largest number of these were not cases due to normal expectancy as a result of normal gene variation. They were predominantly the results of pathology of one kind or another. The basic problems here were medical rather than psychological, educational, or social. About thirty years ago we decided to segregate this type of problem in infirmaries which would be medically oriented. We assigned a staff of research men to work on these problems. We brought together geneticists, biochemists, pathologists, and others and turned them loose on these problems."

"But who told them what to do?" I asked. "How could all these different men work together without direction?"

Dr. Leete nodded thoughtfully. "I can see your perplexity," he finally said. "This problem became rather acute about fifty years ago. It was part of a larger problem revolving around freedom of scientific inquiry, democracy, and the relationship of the scientist to society. The resolution of this problem is a long story, but it should suffice to say that the society we have today is the result. If the forces of intellectual control and demagoguery had won out, then you would now be conducted on this tour by an agent of Big Brother, as described by Orwell about sixty years ago, rather than by myself. Happily, we have found that by turning these experts loose without direction or guidance, their professional training enabled them to work together in an atmosphere of freedom of inquiry, mutual respect and cooperation. As a result a number of the 100 or more types of causes have been conquered and others are being attacked."

We left the building. As we got in the machine he asked if I would like to see some other installations affecting Wunsigs. Upon my assent he then took me on a tour through the city. We stopped at school buildings where classes for Wunsig B's were being held. Some of these classes were for B-II and others for B-III. I was struck by the observation that in each of these classes there were usually not more than three to five children for each teacher.

"Is this not a rather expensive system of education?" I asked.

"That depends on how you figure your costs," he said. "We have found that one of the essential elements in the training of Wunsigs is the nature of the emotional attachment which the child can develop for the teacher. Their progress toward fulfilling their potential is so much greater, that the ultimate gain to society is a net profit. You see," he explained, "for every Wunsig that moves from one level up to the next, there is a marked reduction in the cost to society, especially if one considers the individual's total career of usefulness to himself and to others. Basically, it is just sound economics."

We went on to other buildings where older B-III and B-IV children were being taught to work with tools and to perform mechanical operations. In some places the C-II group was being taught similar operations, but with special techniques and games to stimulate motivation. All of these people lived at home and came to the classes and shops daily. The evening was spent going to various recreation centers in the city where entertainment and amusements particularly suited to the Wunsigs were provided. The costs were much less, Dr. Leete pointed out, than would be the cost of residential institutions for all these people.

As we settled down to a long drink and a cigar after our busy day, I asked Dr. Leete, "Is my impression correct, then, that except for the infirmaries such as we saw this morning, there are no institutions for mental defectives?"

"I suppose that is true in the sense that you thought of institutions in the past," he commented. "However, our present thinking is that we regard the community as a whole as an institution. You see, our Wunsigs do not need to be segregated, as Wunsigs, because we have schools, clinics, workshops, recreation centers, and other facilities for them right in the community. The cost of these things is more than balanced by the fact that their food and shelter is provided at home, in addition to the usefulness of the level III and IV older Wunsigs in an economic sense. Now, of course, Wunsigs can and do become involved in emotional problems, behavior adjustment, delinquency, and physical diseases, but then they are treated in precisely the same way for these problems as anybody else. In such an instance they are dealt with primarily as people with these specific disorders, and not because they may happen to be Wunsigs."

"This certainly makes sense," I agreed, "but how is this program administered? How can communities develop such resources? And what about the initial cost?"

"These are certainly pertinent questions," he agreed. "It was quite a problem to get it started. It was obvious to us a number of years ago that too many different agencies were each trying to deal with a segment of the problem. Overall direction was lacking. We finally decided that the most appropriate governmental unit for an integrated approach to the problem was the individual state. We felt that certain nation wide problems, such as support of training, should be handled by the Federal Government. For coordination of research we depended upon experts getting together at national meetings and exchanging views. These meetings, symposis, institutes, workshops, etc., are underwritten on a national scale."

"Within the states," he continued, "we evolved the pattern of a single state agency to deal with the overall program for the Wunsigs. This State Wunsig Department, or its equivalent, since different states choose different names, developed curricula for classes, opened workshops, initiated clinic services, kept a state register of Wunsigs, and in general subsidized all community programs. It really seems odd to discuss this since it works so well that we do not recognize that it ever could have been a problem." He smiled.

"Yes, Dr. Leete, I guess it must seem simple now," I conceded. "I have one final question and then I think I will be ready for bed."

"Please ask it," he urged.

"You have said nothing about the families of the Wunsigs," I pointed out. "Don't they play any role in this matter?"

Dr. Leete held his almost empty glass up before his eyes and turned it idly. The crinkles around his eyes indicated his pleased state.

"That was quite a story," he finally sighed. "It's getting late so I won't go into detail. Now we have no parent groups. There is no reason for them to exist. Everything they wanted is here. On an individual basis, of course, parents cooperate with various agencies in helping to plan and care for an individual child. Much of their energy is utilized in caring for the child at home. As far as formal organizations are concerned, they disappeared about twenty years ago."

He put down his glass and got up from his chair. He walked over to his bookshelves and after a moment of searching pulled out a volume.

Turning to me, Dr. Leete said, "I think the most appropriate conclusion to our discussion of the Wunsigs, are these words written by Dr. Salvatore di Michael in 1949."

Opening the book he read to me:

"There is real cause for concern about the possibility that the mentally retarded may become (a) forgotten group... For the mentally retarded are a group whose disability may never lift a single one of their number from the shadows of obscurity. Intelligence, a necessary if not exclusive ingredient of fame, is denied to them either at birth or early in life. No prominent figure stands among them to dramatize their cause before the world. The blind can point to a Helen Keller, distinguished writer; the deaf to a Beethoven, composer genius; the epileptic to a Julius Caesar, soldier and statesman; the poliomyelitic to a Franklin D. Roosevelt, a nation's president and wartime leader. But these individuals had the gift of great intelligence, which reduced their physical or emotional disability to the status of an incidental factor in their lives. The mentally retarded have no such source of inspiration and challenge. They cannot point to one of their number and say, 'See what extraordinary good he has done for humanity!' It would seem to be their inescapable fate to be obscure.

"The blind, the deaf, the epileptic, the polios--these can furnish from their own groups the leadership to demand of society recognition and a fair chance. But the cause of the intellectually subnormal must be championed by individuals not of their group; else they will be forgotten in the fight for economic survival, for a chance at liberty and the pursuit of happiness."

He turned to me. "I think you can see that Dr. di Michael's fears were answered. They did find their champion - their parents and relatives, including a President of the United States."

Just then Edith came in.

"I thought you two might have had enough for one day. It's time to relax a bit." She refilled the glasses.

"Not for me." Dr. Leete smiled. "I'm going to bed. You two young ones can stay up a while longer." With that he said good night and left.

Edith turned to me. She had a quizzical frown. "Why do you seem so confused and distracted when we talk?" she asked.

"I don't know," I replied. I looked at her. Again that strange feeling came over me. Attraction and guilt. She seemed to sense the conflict in me. Suddenly the frown disappeared. She looked at me sideways with a half smile.

"Is it because of the other Edith?" she murmured. I was amazed at her insight. I nodded. She turned and faced me, coming closer. She looked into my eyes. Then she said in a tone that I could not be sure was serious or teasing, "Did you ever hear of reincarnation?"

THE IMPACT AND CHALLENGE OF FEDERAL ASSISTANCE TO SPECIAL EDUCATION

Morvin A. Wirtz

I have chosen to discuss the impact and challenge of federal assistance to special education. However, before I get into my discussion, I want to describe for you something of the structure of the Office of Education and how the Division of Handicapped Children and Youth fits into that structure.

I am sure that all of you are aware that the Office of Education is one of the agencies included in the Department of Health, Education, and Welfare. If you have followed the newspaper stories in recent months about the new school aid bill I am sure you are also aware that the Office of Education is under the dynamic leadership of Commissioner Francis Keppel. Structurally, the Office of Education is divided into a number of bureaus. These include the Bureau of International Education, the Bureau of Higher Education, the Bureau of Educational Assistance Programs and the Bureau of Educational Research and Development. The division which I have the privilege of directing is one of the major subdivisions of the Bureau of Educational Research and Development. Within our division we have four branches: the Mentally Retarded and Emotionally Disturbed Branch, the Physical and Sensory Handicaps Branch, the Research and Demonstration Branch, and the Captioned Films Branch. Within these branches we have the various specialists in the areas of exceptionality, research and demonstration, and Captioned Films and I am sure that many of you are more acquainted with these people than you are with the personnel making up the Division office. It may not be necessary to describe in such detail how we are structured but, having come to the federal government in the not too distant past, I realize that it is sometimes difficult in your mind's eye to see where any particular subdivision of the federal government fits into the total structure of its agency.

In trying to show the impact of federal assistance in some rather dramatic fashion I have decided to ask a number of questions and to request the audience to respond by standing and remain standing until I have completed.

1. Are you engaged in training professional personnel with the assistance of federal money?
2. Have you been trained under the provisions of Public Law 85-926 which was the training program for leadership staff in the area of the mentally retarded?
3. Have you been trained under Public Law 87-276 which was the program for training teachers of the deaf?
4. Are you currently in training under provisions of Public Law 88-164 or, as it is more properly known, P. L. 85-926, as amended?
5. Are you planning to receive some training under the provisions of Public Law 88-164 in the summer?
6. Have you been accepted for some level of training for the 1965 school year?
7. Are you hoping to be accepted for the 1965 school year?
8. Have you applied or were you turned down for one reason or another?

Affirmative answers will give testimony to the impact of federal assistance on the training of professional staff. One other question will offer still further proof of what federal assistance can do and is doing to improve the quality of education for handicapped children. How many of you are engaged in research which is being supported by federal money either from our division or from some other source in the federal government?

Shortly before Christmas we solicited information from all of the colleges and universities and the state education agencies concerning the utilization of the funds under PL 85-926 as amended. One of the questions which we asked was how many applications were received for the number of scholarships or fellowships available? Remember that this was for the academic year 1964-65 and did not include summer school traineeships or institutes. The answers we received showed that there were at least four applications for every individual scholarship or fellowship available. Replies from some of the institutions indicated that there were as high as 11 applications for every spot available. The figures reported have to be considered minimum because many institutions did not keep track of the applications once all the scholarships or fellowships had been awarded.

In general, approximately 5,000 people will have been touched in some fashion by the first year of operation of Public Law 85-926 as amended. The specific figures for 1964 are as follows: Traineeships 671; Masters fellowships 1280; post-masters fellowships 175; summer school traineeships 1851; Institute traineeships 933 or a total of 4910 individuals.

The number of institutions applying in 1964 was 210 while the number in 1965 was 247. The number of individual applications grew from 221 in 1964 to 810 in 1965.

Of particular significance is the fact that, although the predictions were that the number of program development grants could and should be reduced, the number of applications rose. One hundred eight applications were received for these grants which range from $10,000 to $20,000 for the 1965 school year. As you may recall, these grants are given to institutions which wished to develop a particular program of training. The number of requests is excellent testimony to the fact that institutions are ready and willing to assume the responsibilities in developing programs of quality which will train the professionals needed in the field. It is regrettable that limitations of funds made it impossible to fund every legitimate request. It is particularly significant that in the 1965 award year we had $14 million to be distributed while approximately $37 million in requests were received. This figure would have been significantly higher if the states had been allowed to ask for all they wished. I think that you should know that the states are limited by formula to the amount of money they can receive for participation in this particular program.

I think I have given you sufficient statistics to indicate that from a national point of view it is certainly obvious that this program is having impact which would not have been dreamed possible ten years ago. The charge of federal control is one which is frequently levied when federal funds are available to support a program. For those of you not familiar with the process by which our funds are distributed I should like to make just a few words of explanation. First of all, we operate with a complicated series of advisory committees-14 to be exact at this moment. The Commissioner has an advisory council which makes overall policy recommendations to him. As you know, he has final approval on all the activities in our division. After the policy decisions are made the Office of Education staff(specifically, our division staff) works out the details of the policies and procedures into the sheets with which many of you are familiar. The advisory council also decides on the distribution of funds among the various areas of the handicapped and between the state education agencies and institutions of higher learning. I cannot emphasize too strongly that these recommendations are not made by Office of Education personnel directly.

As far as the individual areas are concerned we have review panels which analyze the applications on a systematic basis and make recommendations as to those programs which should be supported and at what level. Our personnel support these panels by making site visits (many of them at the request of the institution) so that we can be a resource to the committee in their deliberations. These recommendations are then passed on to the Commissioner for his approval.

Although the greatest bulk of our funds have been available for the training of professional staff, the division also has a modest amount for research and demonstration programs. In the first year of operation we had $1 million which, currently, is supporting 34 research projects. Although the full $2 million was appropriated for 1965, continuation costs from 1964 projects reduce the amount available for new projects in 1965 to approximately $1,125,000. Out of that we are supporting 26 new projects. You should know, however, that we had $6.6 million in requests for the $1,125,000 available in 1965. Here again, is a piece of living testimony to the readiness of the field to improve educational programs for the handicapped. We hope that in the future we can be of more assistance to individuals and organizations wishing to conduct research under the provisions of PL 88-164. We have recently inaugurated a small grants program which will provide up to $7500 for a small grants project with a percentage amount for indirect costs. It is anticipated that this program will meet the needs of the small researcher who does not have a large organization at his disposal.

The captioned films program of the division operates under the authority of Public Law 87-715. The current authorization and appropriation for this program is $1.5 million a year for the acquisition and distribution of captioned recreational films for the deaf and educational films, film strips, and other materials suitable for instructional purposes. The recreational films are distributed at three locations--one in the East, one in the center of states, and one in the western part of the United States. At the present time, we have over 40 distribution centers for the educational films and materials relating to captioned films. These materials are available to any bona fide group or deaf individuals or instructional unit in either a public or private facility. This year these materials will reach an audience of approximately 400,000 individuals. This figure grows significantly each year as more and more interested persons become aware of the fact that this service is available.

I continue to be amazed by letters referred to us from other agencies of the executive branch of the government, as well as congressional offices, asking for information about the various programs which we operate. Apparently the word has not been adequately spread either by our division, the state education agencies, the institutions of high learning, and professional organizations such as CEC. Still another group which should have primary responsibility for seeing that their staffs know about the availability of these programs is supervisory personnel working at the local level. These requests for information come in spite of all the material that has been distributed either through speeches or through pamphlets about the programs available. I am suggesting that we be a little less bashful about advertising the availability of this program. I say this knowing full well that we cannot fund every project submitted. However, we do have a responsibility for showing the true desire for the utilization of these services.

I know that many institutions and individuals have had questions about the fact that we have, in essence, had to hold the line on the number of programs funded in 1965 in comparison to what was available in 1964. This was made necessary by the fact that the program for the education of the teachers of the deaf, made possible under Public Law 87-276, went out of existence as such at the beginning of the 1965 award year. In converting from one program to another almost $2 million of the $14.5 million available in 1965 was used for the program for the training of professional personnel in the area of the deaf. This left approximately $1 million available for expansion. When this is spread over the total United States it does not allow for much expansion in any one area of the handicapped or in any one part of the United States. This is something which we will have to live with through 1965 year and, hopefully, we will not be faced with this problem again.

Everything that I have said, up to this point, sounds as though we are making terrific progress. But, are we really? If we use the training of teachers of the deaf as an example, the evidence indicates that we are barely holding our own. For example, 525 teachers of the deaf were trained last year, but the information that we have is that approximately 500 left the field. Inasmuch as we need almost 2,500 additional teachers of the deaf over and above those we have, it would appear that, at this rate, it would take 100 years assuming that there was no increase in the desire for services. The picture is less clear in the other areas of the handicapped.

Just what is the supply and demand picture? Dr. Mackie will be giving some information about her recent survey on the supply of teachers. However, when I testified on our 1966 appropriation last month I said that there are only about 60,000 teachers of the handicapped available to work in the United States at the present time. From a recent projection based on the census figures up through 1970, we can predict that we need, approximately, 301,000 teachers for the handicapped in 1965 and that this figure will grow to 320,000 by 1970. If anyone is interested, I will be happy to supply him with the details by area, but I will spare you the statistics at this moment.

The time has come to concentrate on attracting dynamic young people who are college graduates into the field by offering condensed training programs. I am happy to see several institutions offering such programs for Peace Corps returnees. State education agencies will be called upon to re-examine their certification procedures in light of such developments. These figures reflect a minimum need for personnel to work with the group we say have "major learning disabilities", sometimes called "the child with too many names." This new group of children (at least they are new to any comprehensive planning) is one which all of us must become aware of very rapidly. The time is approaching when we must face this new task realistically. We have used a one percent figure in our projection in spite of the fact that one can find estimates which range from three to 20 percent of the school population falling into this classification depending upon whose criteria one uses in making the projection.

An examination of this, or any other professional dealings with special education clearly indicates the tremendous interest in this new problem. If I sound a little perturbed about this burgeoning interest, it is only because I am. I cannot help but wonder where these children have been all these years. I suspect that we have been making some plans for them in other kinds of special education facilities, probably rather unsuccessfully. At this point, all I can say is that we do have a problem which we must face and we must do it without becoming emotional. I am concerned about what appears to be a growing cultism developing in this area. One of the challenges we face is to keep an open mind until more facts about this important development in special education are available to us.

This is just an example of the problems facing us in special education, a field which is expanding rapidly both in terms of content and in terms of the market. It is also a perfect example of why we cannot rest on our laurels because if we do we will soon be outdated by other disciplines.

One of the impacts of this federal program which is perhaps less tangible than many of the others is the development of new and improved college curricula for the professional personnel working this field. In addition, many colleges and universities are elevating special education to higher administrative status as a result of expansion and greater exposure which can be attributable to this program. I believe that we can make still greater gains in this area of the training of professional staff by examining carefully the content of the various areas of special education, guidance, remedial reading, clinical education specialists, and psychologists. I have a strong suspicion that if we did such an evaluation we would find that there is a common core running through all of the training programs. I should like to suggest that, with the shortage of personnel to work in the training programs, it behooves us to eliminate some of the bifurcation which we have thought was so necessary and examine how we might consolidate training efforts with the resultant saving in the use of training staff. I know that the Division of Teacher Education of the CEC has spent time considering the possibilities of such an evaluation and I should like to encourage them to continue to be active in this area.

Several needs have become identified as a result of this federal assistance. One is the need for continuing data collection. Any field which is changing as rapidly as this needs a dynamic data retrieval system so that each of us involved in either short or long-range planning has the latest information available. This takes coordination from the national, state, and local level and I am hopeful that such efforts can be brought to fruition during this next year. We have called a meeting of the state directors of special education from all 50 states to be held in Washington on May 14 and 15 to discuss many of these matters. The fact that Commissioner Keppel has appointed Dr. Wayne Reed as Associate Commissioner responsible for federal-state relations indicates the trend of the relationship of the Office of Education with the state education agencies. As the Office of Education is given new and important legislation to administer this kind of relationship becomes critically important. We wish to do our part in the Division to foster the kind of relationship with the states which will be of mutual benefit to all concerned.

I cannot emphasize too strongly that perhaps the important impact of our whole program will be the fact that more adequately trained teachers are available in the classroom. The greatest challenge facing us at the present time is to use the available federal money wisely so that we may get the greatest good from the available federal dollars. Unless, however, all of this federal effort results in improved classroom services for children, not just in quantity of services available, but in quality as well, we will have failed in our mission.

We cannot afford to let cultural lag operate in a field as dynamic as this one in which we have such a strong interest and identification. It concerns me that we already have so much more knowledge, almost what and how to teach, than we are using currently in the classroom. I am saying very bluntly that if it does not bother you, it should. All of us must act as if we are bright, young graduate students who want to set the world on fire. Obviously, some of us are not young graduate students, but, we cannot afford to let our age or indolence keep us from making our impact now. Never before in the history of special education have we had more support for our activities so let us make the most of it now.

MENTAL RETARDATION

A COOPERATIVE SCHOOL--DIVISION OF VOCATIONAL REHABILITATION WORK TRAINING PROJECT

Willa M. Davis
Eleanor C. Ribbans
Devoe C. Rickert

In January 1964, the Eugene School District and the Division of Vocational Rehabilitation (DVR) launched a project to demonstrate the feasibility of a cooperative approach to the education of secondary school age educable mentally retarded. This project is to run for three years and is funded by a grant from the Department of Health, Education and Welfare of approximately $32 thousand per year.

At inception there were 45 junior high and 33 senior high pupils enrolled in special classes in the district who were brought into the program. To be included, students had to be certified mentally retarded by the State Department of Education. Individual intelligence test scores for certification range from 50 through 75, and in addition, the pupil must be capable of functioning in a public school setting. The age range of the pupils is from 14 through 19. Provision is being made for a pupil to remain in school to age 21 if it is deemed feasible or desirable.

A unique aspect of this project is the use of work experience as the core of the curriculum. Vocational preparation is a central function of the school experience of these pupils. Skills in the academic subjects are developed as much as possible in the first two years of the junior high school. Special care is used to incorporate training in the self-care and social skills needed by every individual. In the third year of junior high the pupil is given in-school work training which will begin to prepare him to meet the demands of a job. In-school work experience continues through the first year of high school, with time being extended to longer periods and work assignments made more difficult.

Primary emphasis in this phase of training is on developing work attitudes and habits rather than stressing any specific skill. School tasks which have provided training jobs are: cafeteria workers, custodial assistants, library aides, school store clerk, nurses' aides, teachers' aides, and other jobs available and applicable to the needs of an individual student in the program.

DVR involvement in the first three years of the program consists mainly of supplying consultive services to teachers and administrators in setting up these in-school training placements, and providing case services to students if eligible.

The second phase of work training comes in the last two years of the program. In this stage, pupils are assigned to out of school training placements for periods ranging from two and one-half to three hours per day, depending on bus schedules and other factors. Jobs that have been found to be appropriate include: stock clerk in department store, stock clerk auto parts, stock clerk hardware, service station attendant, construction worker, park maintainance, nursing home worker, cafeteria worker, custodial helper, laborer milk plant and many others. Again, the emphasis is upon work habits and attitudes rather than specific skills in placements. Few difficulties have been experienced because students cannot actually perform the work involved. Failures are experienced because students do not know how to go ahead on their own or cannot adjust to a work placement for a variety of reasons. Some do not succeed because of personal problems or are not acceptable to employers for purely personal reasons.

The two hour block of classroom time given to the special education portion of the program is used to build upon and enhance the academic skills the pupil may have. As much as possible of this instruction is related to the work experience the students are having. Problems in mathematics, for example, are drawn from the actual mathematics a student needs in his training placement. An application blank forms the basis for a lesson in communication skills. Some things which have been found in need of emphasis are: ability to make change, simple arithmetic skills, reading related to jobs and related job forms, ability to travel by commercial means, and knowing where to go when help is needed with employment, taxes, social security, etc.

Many students have pointed out that a problem of retardates is that they do not know what to do with leisure time. One two-hour period per week is devoted to leisure time activities. Swimming, bowling, dancing are some of the activities that have been included with about nine weeks devoted to each. In the spring of 1964 about two hours per week were spent in planning a camping trip. The culminating activity was an actual two day camping trip. Students were given an opportunity for nature study, fishing, and hiking and related activities. The consensus was that this is an excellent means for teachers and supervisors to observe and learn about students. Only the high school group was included in this activity. Learning opportunities sparked by this kind of activity are limitless; the whole curriculum can be included: mathematics, communication skills, social living, physical education, health, etc.

The three junior high classes in the program are housed in two separate schools. The three high school classes are all in one building. Pupils are integrated into as many of the activities of the school as possible. They participate in athletics, chorus, and student government within their respective groups and are well accepted as a part of the school program by other students. Driver education is offered to all who are able to secure a permit.

The grant provides funds for case services, medical or psychological evaluations and special services when needed. Money is available to purchase training materials and equipment needed by the program in addition to that provided by the school. The grant also provides for training for teachers. In 1964, six teachers spent approximately three weeks developing curriculum ideas. Projected for 1965 is a plan in which teachers will work with DVR personnel in order to orient them to the nature of the task of DVR.

The special education director of the district is the project administrator. A citizens' advisory committee made up of members of the community serves as a public relations outlet and as a source of guidance to project personnel.

A major reason for this entire demonstration project is to show that a combining of skills and knowledge can provide a successful program for the educable mentally retarded. In addition to the facilities and teachers provided by the school, the project provides for a social worker, a vocational rehabilitation counselor, a job finder and a secretary. It is the functioning of these additional personnel that give the project its unique quality. Let us examine the role of each of these jobs.

Job Finder

The project application made specific provision for a job title of Job Finder with the following duties: (a) to work with the vocational counselor to find job opportunities for mentally retarded students, (b) visit community businesses to find possible training opportunities, (c) report to vocational counselor places and information on nature and suitability for training situations, and (d) assist teachers and principals to find jobs within schools.

The approach which is being used at the present time is for the job finder to function as part of a team with the specific task of locating and contacting employers. The job finder sits in on all weekly staffings and has meetings as needed with the vocational counselor to determine the training needs. Once the decision is reached on the type of job that is needed for a specific student the job finder makes himself familiar with the aptitude and capabilities of the student. The next step is to review the placement possibilities that might fit the student in question.

If it appears that one of our present employers or training jobs would be the correct one, very little work is necessary. A telephone call or a short personal visit can clear up the details for a new placement.

When a new placement is needed the list of possible new placements is reviewed. The personnel manager or person in charge of the selected business is contacted for an appointment. The program is explained in a brief positive manner and a form letter explaining the essentials of the program is given to the prospective employer. Information concerning time, state industrial accident coverage, school training credits instead of pay, etc. are covered by the letter. This helps to insure that important items are not missed in the preliminary contact.

If the employer is at all interested, discussion can begin on the kind of training station that is desired. Many times the job finder must suggest possible jobs that the pupils can do. Effort is made to stress the strengths of the retardate rather than the weaknesses. Attention is called to the fact that we are more interested in good work attitudes and habits than specific skill training. A copy of the booklet, "So You Are Going to Supervise A Mentally Retarded Employee," available from the Office of Health, Education and Welfare can be presented. This booklet seems to answer many questions that employers have regarding supervision of the trainee.

Many employers want an opportunity to meet the prospective trainee before they actually commit themselves. In no case have we had a refusal after the employer met the trainee. Others need time to contact their seniors for approval to go ahead with such a program. Some simply want time to think the problem through. The job finder must sense this and make the suggestion that he contact the employer at a later date for a decision. In almost all cases this has led to acceptance.

At some point the job finder has to make an evaluation of the prospective employer or job. There will be cases in which they will not be satisfactory. Hopefully this can be done before the contact is made but in some cases it is not possible. The best solution seems to be to let the contact simply drop after the first approach or explain that the job does not seem to meet the requirements of the program without going into a detailed reason.

Wage and hour laws must be considered in all placements as there are jobs that are not permitted to certain age groups. Unions must be consulted if they are involved in the business concerned. The aid and support of these organizations needs to be sought and cultivated.

After all of the various aspects of the placement have been cleared with the proper sources, a meeting to arrange the details for placement can take place. The DVR counselor then makes the placement, arranges the supervision schedule and training begins.

Leads on possible placements come from many sources. The telephone directory provides many possibilities. Some of the most valuable tips have come from teachers, students, employers and through contacts made at meetings of service organizations, etc. where the program has been explained. The job finder should be constantly on the alert as he tours the community for sources of possible placements. Followup contacts are strongly recommended. These tend to support the employer and open up other training opportunities in the same organization.

Services to the inschool program consist mainly of consultive visits for the purpose of helping teachers and administrators in locating inschool work training stations.

We feel that having a person to make the employer contacts has freed the teachers and other staff members to concentrate on helping the pupil. In addition it has provided a liaison with employers designed to secure their understanding and cooperation. Without their continued support a program such as this cannot function. It has proved to be a satisfying and challenging task.

Vocational Rehabilitation Counselor

Information gathered about other projects which are using a combination of vocational rehabilitation services and school district services indicates that the role of the vocational counselor is unique in each setting. Some of the determining variables seem to be the size of the program, financial basis for the program, the type of community being served, characteristics of the group being served, and the individual personality characteristics and background of the staff members.

The role of the vocational rehabilitation (VR) counselor in the Eugene Project is mainly that of a practitioner with few consultive responsibilities. Most of the students apply for DVR services and receive medical and restorative treatment as needed. The VR counselor serves mainly as a consultant to the junior high teachers and to the teacher of the sophomore class who is in charge of in-school training placements at that level.

The counselor works as a team member in the on-going evaluation process. Students are evaluated in the following areas: educational achievement level, acquired skills, potential aptitude, interests, physical capacities, family attitudes and plans, personal traits and work habits. Specific and long term goals are established on the basis of the evaluation. These goals are used as guidelines for selection of community placements.

The identification of realistic goals which will aid students in obtaining and holding a job is an essential function of the VR counselor. General characteristics of a good employee must be identified and taught. Job possibilities in the community and county must be thoroughly explored and the requirements for specific jobs must be identified and matched against student characteristics.

In the Eugene District the VR counselor is responsible for job supervision, although daily supervision is being done by the teachers. Adequate supervision is essential in order that training positions be meaningful. A thorough job analysis for the purpose of identifying job tasks and performance level, provides the basis for selecting placements which will enable students to move toward identified goals.

Communicating the students' needs to the employer and helping the employer to meet these needs are part of the supervisor's job. Another very important aspect of supervision is communication with the students. The student must be vitally involved with planning. He needs to make decisions concerning his own present activities and his future, and he needs to be supported and encouraged to carry out his plans. The staff must provide an open and accepting atmosphere so that the student will feel free to discuss problems and return for further guidance if he is not successful. The student must be helped to summarize and evaluate his experiences and he must be provided with job information which will enable him to make realistic vocational plans.

The VR counselor also provides services to students who leave the school program as long as services are needed and the student continues to meet the eligibility requirements. These services include: helping clients with skills required on specific jobs, counseling, role playing job interviews, and helping clients to locate jobs through the employment service and direct job contacts. All other services provided by DVR are available.

Social Worker

The inclusion of a social worker in the project staff was in response to the conviction that the mentally retarded student does not exist, and learn, and grow in isolation. He is a member of a family group whose influence on him, for good or ill, is all pervasive. It was considered essential that a close liaison exist between the school and the students' families since the project plan was different from the traditional methods of education; in our plan, the student was to be involved with the larger community through a variety of experiences designed to stimulate maturity and growth. Project staff planned to work closely with each student in preparation for the community work placement and, therefore, information concerning the student's health, aptitudes, mental ability, educational history, personal adjustment, and family attitudes and expectations were all factors to be considered in making these plans. In addition, it was recognized that students and their families are frequently in need of direct services to help them cope with personal problems, and that these problems had a direct bearing on the student's ability, or inability, to use the school program.

To summarize, the broad areas of the social worker's job involves: (a) having knowledge of the home setting in which the student lives and operates, (b) establishing a close liaison between the school and the home, (c) providing information to other staff members from current and past records of the student, and (d) providing direct casework services where needed.

Since we are involved in a study and demonstration grant in Eugene, we have tried to operate in a very self conscious way in order to be able to answer questions about our study group and to evaluate the effectiveness of additional services on the ability of the students to make good personal and vocational adjustments at the end of their school training. If our experience is to be of value to others, and our plan applicable in other school districts, it is essential to know the major characteristics of our student body so that modifications can be made to reflect the differences that exist elsewhere. As stated above, the social worker is concerned with information concerning the whole child; in the process of analyzing this data, a description of the entire group emerges. We have gathered information in the following areas:

1. The number of students involved in the project including a detailed study of our dropouts.

2. The number of referrals to the program and the disposition of each.
3. Medical evaluations obtained on each high school student.
4. Intellectual ability test results.
5. Socioeconomic data on the families of the students.

The data collected to date have been summarized in annual reports except for the area of the socioeconomic factors which are still to be done.

In January, 1964 there were 45 students in our junior high program and 33 students in high school. Although at the end of the first calendar year, the enrollment was still 45 students in the junior high and 39 students in the high school, due to the additions and losses, a total of 109 pupils had been served. The losses at the high school level are interesting to analyze. Only two students left through school initiated planning; one was through graduation, and the other was through a planned release to a sheltered workshop. The other 15 left on pupil initiated plans that involved the following reasons:

Employment	3
Over 18 - not interested in continuing	2
Excused by school board - attendance	3
Returned to regular school program	1
Correctional institution commitment	2
Moved from district	4

We expect to continue collecting this data to see at what school year the dropout is most likely to occur, the relationship to IQ scores, if any, and whether or not the dropouts have more difficulty making vocational and other adjustments than those who complete the high school program.

Time and space do not permit a discussion of all of the descriptive aspects of our study group, but we would like to share with you some of the highlights of the results of our intellectual ability testing program. A Wechsler-Bellevue Form II was administered to 44 high school students during 1964. Through this testing program, we obtained information in the following areas:

1. The student's current intellectual functioning as measured by the test, and his ranking among his classmates.
2. Indications of any changes of IQ scores since placement in a special class program.
3. Group strengths and weaknesses as revealed in the subtests.

The following scores were obtained:

IQ SCORE	Number of Students
50 - 59	5
60 - 69	8
70 - 79	11
80 - 89	13
90 - 100	5
over 100	2
	44

These students have been in special education classes for varying periods of time ranging from seven years to those who were certified as mentally retarded only a few months ago! In the junior-senior group, fully one-half now test out of the retarded range while in the sophomore group, one-third have reached this level. The scores have been plotted by classes so that the teachers would have available the ranking of the students in regard to full IQ scores. We can also show on this same graph, the relationships between the full scale, performance, and verbal scores as they describe the individual student and characterize the group as a whole. As you would suspect, performance scores were generally higher than verbal scores. Thirty students out of 44 had a performance score of 75 or higher while only 21 students had verbal scores at that level.

These scores can give a general picture of the intellectual functioning of our student clients, and they can aid us by providing a starting place in planning appropriate work experience placements and the accompanying academic skills required to do a particular job. We are fully aware that job success is not directly related to IQ scores for the mentally retarded, or for anyone else for that matter, but it is one factor that must be considered in making a successful work experience placement.

Fortunately, the personal qualities that make for a valued employee can be learned by our most limited students and this can help them to gain acceptance, and understanding and rapport with an employer that might well be envied by those considered to be more "gifted."

EDUCATIONAL AND PSYCHOLOGICAL STANDARDS FOR WORK-STUDY PROGRAMS FOR SECONDARY MENTALLY RETARDED PUPILS

Jack C. Dinger

There is mounting evidence that, as teachers of the mentally retarded, we must become more clever and be more careful in what we say to our students in these job training programs. One of the things we so often criticize in our pupils is their laziness. I remember one teacher who, in trying to get a stockboy trainee to move a bit faster, said: "Hard work never killed anyone." The socalled retarded boy retorted: "Maybe so, but I ain't never heard of anyone resting himself to death either." Apparently these two had different standards regarding what was a sufficient amount of energy to be expended on the job!

I began my professional work with retarded children as Director of Psychological Services at the Polk State School; a residential school of 3,500 retarded from age six months to 85 years. Four years of service here left me with the feeling that I really knew something about retarded people. I then became Supervisor of Special Education for the Altoona School District in which several hundred retarded children attended special classes. During a faculty meeting of the special education teachers shortly after my arrival, I asked several of the ladies who had been teaching the retarded for 20 or more years just what became of these children. They did not know and did not think it was really their business to know because "they were employed to teach the ones in their rooms now; not to go hunting the former ones to find what had happened to them." We came to the rather frightening conclusion that we were all so very busy training pupils that we had never taken the time to find out for what we were training them. We also decided that this could not be the most efficient way to conduct a training program. One cannot hit the target if one does not know what or where the target is. Further discussion led to the conclusion that the best indicator of what the pupils in our present classes for retarded would become or could be trained to be was a study of experiences and progress made by children in past classes in the school training program.

I decided to make this my doctoral dissertation and proceeded to interview 100 former special class pupils in their homes and also visited their employers to do a job analysis of the types of work done and the skills involved in doing them. These people really amazed me; I thought I knew something about retarded people from my work at Polk State School and from the special classes for retarded in Altoona but with only five or six exceptions I would have challenged anyone to have identified these people as retarded. They were fairly well dressed, spoke quite intelligently during the interviews, had quite adequate homes, and had wives and children who paralled the average of any community. These young adults were earning a living, establishing homes, raising families, being neighbors in their community, attending churches, and contributing to community charities. By what criteria did we then label them as retarded then and now?

In order to give our present students the most realistic preparation for life we studied all of the jobs held by these former pupils. We were interested in determining what qualities of personal, social, occupational, and academic training were needed for success on these jobs. This proved to be a very interesting and educational adventure for me and one which I would urge each special education teacher to have. This gave me the first hand knowledge of the skills, tools, knowledges, and qualities needed in these many unskilled and semiskilled jobs which make up the great majority of the work world. I was shocked at the extremely limited academic knowledge required for successful performance of these jobs: one-third required no reading whatsoever and only second or third grade was required for the remainder; 70 percent of the jobs required no writing whatsoever except for signing the pay check. 95 percent of the jobs required less than fourth grade arithmetic. The employers were quite impressed with the workers' personal qualities, especially their efforts, punctuality, dependability, speed of working, and courtesy. These you will recognize as the same undesirable characteristics of the school age retarded child. The employers said that they liked these employees so well that if they could help the school to train more like them they would be glad to do so and would then hire them when they had graduated. Interestingly enough, the employers did not regard these adults as retarded but as dependable and desirable employees.

This study left me with the firm conviction that as special education teachers we had a lot to learn about curriculum development and implementation. We can look in almost every textbook on mental deficiency and read pages about their limitations but I am still striving to find one book which mentions anything about the good qualities of mentally retarded children. If they do not have any we may just as well fold up and not even bother starting. This, then, becomes our first standard that we must establish: Every teacher must have a positive attitude and aspiration for these children if they are to succeed with them. Too many years we have labored under the heavy weight of futility and predetermined failure of the whole educational program: keep them happy, but do not expect to much from them. This was the spoken or unspoken theme too often.

We have given the total working staff (teachers) the right set of values, knowledges, and skills which the final product needs to function; these are determined as right by each worker following up the postschool functioning product and seeing his success and failure, analyzing the factors which have made for success and for failure, strengthening those things in the curriculum which lead to success and then eliminating those which have not permitted success. Some of the types of problems which interfere with job training success in our work study programs in high school are: (a) lack of punctuality, both on arriving at the job and in leaving the job; (b) poor attendance at school and hence on the job training program; (c) failure to be responsible enough to notify the employer ahead of time in case of absence; (d) lack of cleanliness or adequacy of dress on the job; (e) lack of adequately mature conduct on the way to and from the job; (f) poor and immature conduct on the job (smoking, sleeping, talking with others instead of working, laziness, etc.); (g) lack of initiative, respect for authority, courtesy; (h) taking things home from the job (tools, merchandise samples); (i) spreading gossip about other students or self; and (j) failure to ask for assistance when needed.

It is perfectly well known that we cannot program into our students all of these virtues which will prevent these negative behaviors; this certainly could not be done in the few short years of high school after they have had many years to develop in the child. Similarly, we do know from limited experience that such virtues can be programed into almost every child if each teacher on the assembly line knows that these are vital influences in adult success. We must then set up a second set of standards as to what is of first importance: Is it to be academic or this personal-social training? I for one am certain that we have long over emphasized the pursuit of the achievement test score at the neglect of establishing such personal social traits as: honesty, dependability, punctuality, loyalty to the employer, willingness to do more than asked, initiative, courtesy to others, desirable reaction to criticism, and the capacity to secure assistance when needed. These traits have been validated over and over again as the types of factors which make or break the worker on the job, not his ability to read Shakespeare or to do algebra. If this is true, then Dick and Jane are going to have to give up playing with Spot and Puff some of the time and the teacher with this new orientation is going to have to program a 12 year course sequence in these traits. Could we program a 12 year course of study in courtesy or initiative or willingness to do more than required? Of course, but did you ever see one? We have traditionally given such teaching only a fleeting bit of time when some specific situation arose which brought the need to our attention.

We can program a sequence of these just as carefully as we have now developed our reading and arithmetic courses of study. It will be worthwhile for us to expend some effort in this direction. How differently this young adult who has had such a training program for 12 years would approach his first job or his job training assignments in high school! How much more confidently and successfully he would view his future! How differently his employer would see him if he were to do a bit more than he was asked on each task! I think I know. One boy, Gerald, not too bright and rather visually handicapped, needed a first job training station for his work experience program. We were frankly concerned about where he could be placed in view of his handicaps. We decided to approach a florist who was a high school classmate of our job training coordinator. He showed anticipated reluctance in accepting Gerald but personal pressure and the bandwagon approach (all the other businessmen in town are cooperating why shouldn't you) paid off and Gerald was permitted to start work. The manager told him just to watch the first afternoon and the next day was told to sweep the store very carefully (just to keep him busy and out of the way). The manager went to lunch after giving the assignment and when he came back he found that Gerald had swept the floor very thoroughly but he had also rolled up the three foot wide rubber carpet that ran the length of the store and had swept under this very thoroughly too. The manager was surprised because the floor had not been swept under the carpet since it had been installed over a year before. That one simple act of going a bit beyond the call of duty was enough to convince the manager that Gerald could not be all bad and from that day on he was given increasingly greater scope of duties until he was arranging flower displays and helping to deliver them; all because he was willing to look beyond the job and was able to do more than that which he was required to do. This trait is becoming so increasingly rare in workers in our society that it will be extremely noticeable if demonstrated by some of our graduates.

I have long believed that if we can establish high enough standards for our students that will cause them to emerge from our program with the ability to look well, speak well, and behave well, we will have added 30 points to their IQ; at least in most of the employers' minds.

A third area of our educational process in which we have not set our standards high enough is the involvement of other personnel besides the special education teachers. Too many are trying to do the job all by themselves and this is foolish; foolish because teachers cannot expect to be all things to all people and secondly because teachers just do not have the time and talent to prepare the pupil for adulthood entirely alone. The use of the other specialists in the school system is so obvious that it does not warrant discussion here; but how many of us have made use of the Chamber of Commerce the service clubs to which businessmen belong; the Women's Clubs which are so influential in most community attitudes toward various programs. I do not mean to limit the involvement only in giving these groups a nice talk about the school program for informative purposes. I mean to enlist their active participation in helping to mold human lives - the process we call special education. Surely this takes more work to get such a plan working but it pays off quite handsomely. Lansing, Michigan has set an excellent example for this sort of thing and the aid of the Venture Club of junior business girls was enlisted to help with the personal social development of the secondary age retarded girls. This has paid off handsomely in terms of added maturity, inspiration, models to follow, better grooming and manners and lots of just plain fun. And the clubs enjoy this activity very much; inspiring them with real reason for existing which is a human rehabilitative project and a very satisfying one. Let us have businessmen criticize our job training program. Let us welcome their comments on the product for which they will eventually have to pay. Let us listen to them when they tell us to remove our rose colored glasses and look at the products as they do. If we are neglecting our training program they can soon tell us where the gaps are and they can give us ideas on how to correct them.

Just a very brief comment on one of the jobs that hundreds of our pupils will be getting and for which we have given pitifully little preparation and emphasis in our curriculum; I know of no 12 year training program for it. The job I refer to is that of a housewife. Most of our educable girls will marry and be faced with many, many tasks, decisions, problems, and frustrations for which the school and the home have really not prepared them. Certainly we give them a course in cooking or sewing or perhaps child care but these certainly are not the total answer to the preparation of an adequate homemaker. Think about the money management of the home, the budgeting of a limited income, the wisdom of Solomon needed today in shopping for bargains in food, clothing, furniture, and appliances. Today one can buy a washing machine for anywhere from \$50 to \$650. How do they decide which to buy? The emergencies of daily life in terms of sickness, accidents, and financial crises, and the pressure of time and heavy work loads with limited resources can be a very hectic job for all of us even with our great amounts of preparation; how overwhelming this must be for the girls of our classes with their limited intelligence and money to cope with these problems. We must have a higher standard of training for this important job so that we can help them to raise their standard of living in terms of cleanliness, attractiveness, less culturally deprived and more conducive to better physical and emotional health for them and their children.

I should like to conclude with a story of how standards were set and how the pupils met them, in a very satisfying way, one which has been an inspiration to me. Before the Altoona classes in special education were permitted to attend the senior class dinner and dance, we had our own graduation and dinner dance. After two modest affairs in modest environments, the high school special class teachers and I sat down after the last student had gone and decided that this was not a high enough standard for our pupils; we needed to think and plan in a bigger way. We decided to book the banquet room of the largest hotel in the city of Altoona for the next year's dinner dance. We had no idea of how we would pay for it or the expensive meals for our graduates and their dates but we did have it reserved and a year to worry about paying for it. When we presented this problem and opportunity to our new seniors in the fall we told them that it was their problem to solve. They had our guidance when needed but were not told each step of the way what to do next. They ended up earning enough money to pay for all of their dinners and enough left over to employ professional entertainment and a caller for folk and square dancing. The teachers and I sat down again in the hotel dining room after the last pupil had gone home and said: "Well, we have really arrived now. Where could we possibly go from here after this success?" Mrs. Auen, who just retired this year, said jokingly that there was always New York City. We figured that she must just be overly tired and decided to take her home. In September when the new senior class had met for a week or so, Mrs. Auen came to my office and told me that she had discussed the New York trip with the class and that they were all excited about it. I told her that we had just been joking, hadn't we? "Well we had better think about it since I have given them the idea that we are going" was her answer. The class did think about it. They planned elaborate sales and money making campaigns to earn the needed amount. They planned and computed what it would cost to travel, to stay at hotels or motels etc, for the food and entertainment, sightseeing etc. They wrote to the various places asking for prices and features of everything involved, again with almost no teacher dominance and decision making for them. What a learning experience this was. It was too bad the way it turned out, however, because despite their most strenuous efforts and planning they could only make \$600 and they had computed the trip to cost more than that. So they went to Washington D.C. instead, since it was a cheaper place to visit. The senior class did better the next year. I guess they started a week earlier to plan and they raised over $900 and did get to visit New York City for two and one-half days.

The point of this story is simply that we do not know what these mentally retarded pupils can do if we present the challenge in the right way and give them proper guidance along the way. As we keep raising the standard for their performance they keep meeting it. We do not know yet just how high they can jump. Let's keep finding out !

SUCCESS AS A TOOL IN THE HABILITATION OF THE RETARDED CHILD

Norman H. Hermstad

Success is a usual product of school activities if goals are realistic. Teachers (and curriculum planners) scale the ascending difficulty of learning activities to allow a high degree of success. In the construction of programed learning materials, an effort is made to reduce the acquisition of new concepts to tiny increments, each of which seem easy to the pupil. He makes numerous responses and is made aware of his progress by having the correct answer displayed immediately. If the material matches his ability, he will have to do a minimum of backtracking due to wrong responses. He is constantly aware of his success.

Some degree of success along the way is a necessary ingredient in the progress of the research physicist, the lever pushing rat, the baseball player, the typist, and the gardener. It is an inseparable part of the learning process. All of us plot our course through life largely by selecting future activities on the basis of past success in related activities.

It is redundant to say that the retarded child, too, must experience a large degree of success from his efforts if he is to make progress. Yet, the choice of title springs from a feeling and a knowledge that many retarded children have experienced far too little of the day to day successes that are essential to the individual's growth and progress. Consequences of this situation become apparent in the child's personality. Ripples spread to parents who become dissatisfied with the school program and often press for larger doses of that which is troubling the child. They may even engage a private tutor on the side and thereby compound the problem. If we, who are providing the curriculum, shrug our shoulders and say, "I'm sorry, this is life. It is the fate of the retarded child to fail," the situation will not change. What may be done is to change the curriculum so that the retarded child is attacking the problems of his own particular world. What is his world? He will ride in autos without having to buy one or repair it, and he might never operate it. He will enjoy a steak or hamburger without worrying about the comparative cost. He may be more objective than you or I about the comparative taste of each. He will not worry about income tax or insurance. He will have our biological urges and not be allowed to raise a family. As a child he must try to get along with the other children in the block. He has a need to feel useful and wanted. As an adult he must find ways to avoid being too conspicuous. He has the right to live in dignity. When we, as teachers, see a satisfied and cheerful child who is glad to get to school each morning, we will have one indication that we are on the right track.

At this point, we might define success. The dictionary says in part, "A favorable or prosperous course or termination of anything attempted..." Who determines what is favorable or prosperous ? The pupil must achieve what he sets out to do by his own standards. He must satisfy himself. If the success is to be durable, the pupil's peers, his teachers, and parents must recognize it as an achievement worthy of his efforts. The pupil may need to readjust his own standards, values, and expectations if he is to be successful. He may have developed distorted goals by being immersed in a sea of persons who are, in general, much more capable.

This discussion will be directed primarily toward the retarded child who has a prognosis of dependency. In different areas, he may be called deficient retarded, trainable retarded, or moderately retarded. The writer's experience has been chiefly with adolescents and illustrations will be of this age group.

One brief but all inclusive generalization of educational goals is, "Optimal self-realization of the individual." Let us try to apply this to the deficient retarded child without any under the breath, "with respect to the three R's." Given a reasonably reliable diagnosis which predicts ultimate dependency, the pressing urgency to achieve functional literacy is removed. Our administrators and legislators have seen fit to bless us with small class loads. The stereotype classroom has evolved to serve certain purposes for rather large groups of pupils. If we program for individual needs, do we need a classroom? We may call if a classroom if we like but how will it look and with what will it be furnished? Could it be a barn with cows? Could it be the cabin and deck of a fishing boat? Could it be a clearing in the firs on the Pacific slope? Could it be on the lawn in a quiet neighborhood? Might it be the second floor of an old factory downtown? Because we do not have unlimited funds, because we do not have tutorial pupil teacher ratios, and because we can find some areas of commonality in any group of children, we must not be too revolutionary. We do not want to withdraw from the rest of society. Normal children are perhaps the greatest resource available in the socializing of the retarded child. In forming special classes, we automatically remove the behavior standards represented by normal peers. We can recoup part of this loss by remaining on campus even though we have a separate curriculum and teaching situation. Harry Harlow, of primate research fame, shows us how important infant socializing is in the development of normal monkey personalities. We know also that personalities are distorted among long term institutional patients. Teachers may become uncritical about bizarre behavior without a backdrop of normal pupil activity against which to compare.

By the time the retarded child is in his adolescence some of the desired effects of integration with the normal child will be established. His peers by this time are in junior high and high school where there is more independent action, more mobility, and less acceptance or tolerance for the deficient retarded. At this point a more specialized environment is desirable. These factors were considered when Redwood Park School in Bellingham was established for deficient retarded adolescents. It is located in proximity to an elementary school but is essentially separated except for sharing of some facilities and administrative services. Integration occurs in carefully selected instances. The retarded attend programs put on by the elementary classes. Some of the grounds maintenance at the elementary school is done by the retarded pupils. The normal children come to Redwood Park to collect specimens of pond life for science class. In this way everyone is challenged to put his best foot forward.

It is possible to have lawns rather than surfaced grounds. Projects on the grounds are not subjected to traffic and vandalism by disinterested pupils from other classes. The curriculum can assume any useful shape. The environment is more nearly that of a home or small community with diversified activities.

At this point, I would like to present some specific examples of activities which did meet the needs of a deficient retarded child and this world.

During construction of a woodshed at school, Bob nailed cedar shakes on the roof. As a result of his participation, he came to have regard for the fragile nature of roofs in general and will not walk on one unnecessarily. This is typical of the attitude of most of the pupils toward the school that they helped to build and maintain. It may be contrasted with the wanton destruction of property that often occurs in a normal high school.

Jim is deaf and mute in addition to being deficient. He likes to play with water. The first auto he washed also got a fuel tank full of water. He has strength, curiosity, and lack of judgment to the extent that the controls on the interior of the auto are not safe with him. If a knob stops turning, he twists it off. This, among other things, prevents him from working in a commercial auto laundry; but at Redwood Park, he washes the exterior and another boy, who dislikes getting his hands wet and cold, cleans the interior Still other boys, who have more judgment and who do not mind physical exertion, polish and wax the auto. If our only goal for Jim is to occupy him inoffensively, we might let him play with the hose. In so doing, we would make him conspicuous as an adult. We may never find another particular talent of his to develop but if he continues to do a meticulous job of cleaning the exterior of an auto, he will gain more acceptance from his neighbors. It is a simple matter to close the windows and lock the doors before he begins. Over a period of time, he has learned to dress himself appropriately for this activity and by the way, he does not mind if it is raining while he washes. He is genuinely happy doing a job that most of us would rather not do. He is easier to manage because he has an acceptable outlet for his energy.

In the fun department, a retarded class made fiberglass boat models. The procedure was scaled down from the actual methods used in boat factories. The boats were built in a female mould; consequently, every boat was the same shape, but it was an accurate shape, the finish gleamed, and the craft was pond worthy. Careful work was required to wax the mould, apply the gel coat, and laminate the glass cloth. Individuals chose their own color schemes and added unique decks or cabins of wood. The product was impressive enough to cause a pair of normal boys, who had evidently seen the models on the school bus, to try to enroll in the class the next fall. They wanted to go to a school where they could build boats like that. The outstanding element of success here was the acceptance of the retarded group by their normal peers. The essential device or gimmick was the mould; without it the boats would probably have been beautiful only to the builders.

In some cases a single success can justify rather involved projects. The local nurseries seemed to be a promising outlet for some of our retarded pupils. We began to think of having our own greenhouse to explore the field with our pupils. It would have glass walls so the teacher could supervise from inside out or from outside in. It would also be a warm island in the cold and rainy winter weather. Eventually, it became a reality. It proved to be a useful addition to our grounds by providing an unlimited supply of plants and shrubs. Its inviting capabilities charmed visitors who said, "I'd like to work there myself." Our window washers had a whole new set of windows to wash. Two boys, who were so crippled as to be sorely limited in many activities, propped themselves against a table and sifted soil for potting. The real success story concerns an Indian boy whose environment had taught him to work hard when the fish were running and to take life easy in between. The fish of late have not been too dependable and fishermen have increased in number. Besides this, the fish must provide income as well as food these days. A change of values as well as a change of a way of life is involved when such tradition falls before civilization and population. This boy found his best talents in the greenhouse. He learned many sound techniques from a student teacher skilled in greenhouse operations. The boy has since done seasonal work for a local nursery. He had to choose between the plants and the fish, and he chose the steady paycheck over the gambler's chance of making a haul. Without the variety of facilities and activities available for him to sample, this boy's particular aptitudes may have gone undiscovered.

Teaching must sometimes be done differently. Performing for the child so he may imitate the teacher is not usually recommended in the teachers colleges. However, one may capitalize on the mimic traits of a mongoloid child by encouraging him to imitate. This is effective in mopping a floor, pushing a wheelbarrow, or blowing one's nose. A deaf mongoloid was able to develop a very presentable bowling form by watching his teachers and also by watching bowling on television. The unique part of this performance was in the statuelike follow through, held until the ball disappeared among the pins. On the other hand, a commercially prepared instructional film on bowling proved to be a dismal flop for the least able pupils. Imitation backfired in another instance. This mongoloid child perversely chose to imitate a boy with severe motor control problems.

Why do we teach a deaf mongoloid with a mental age of three to bowl? Some of the pupils will be eligible for the usual academic features with which teachers are always concerned. There is the score keeping and the handling of money. This is a real use of numbers with intense motivation. Anyone capable of learning to count to ten and to add two digit numbers is liable to achieve under these circumstances. We have children though who cannot learn to count or add. Their mental age might decree sandbox play or maybe roller skating for recreation. As adults, chronologically defined, however, they are more acceptable if they can quietly enter a bowling alley with friends or family, stow their wraps, choose a ball, and take turns on the line. In many cases it may be the first adult family activity they are able to participate in under the public eye. Here again is the principle of personal success amplified by the acceptance of others.

A fifteen year old mongoloid girl who came to our school this fall clutched a pencil box and pad of paper even during the lunch hour. She had acquired a value system that she could not attain. As the school months go by, she is proud to carry home a loaf of crusty homemade bread (her own) and the pencil box rests in a drawer, available when she needs it. The bus driver threatened to leave her at home if she persisted in spreading the aroma without leaving a sample. Now, she starts out with two loaves.

The retarded child can succeed in his own world. His success will be personal but it must have stature in our world. Let us change the curriculum, and change it, and change it until the child succeeds.

ANOTHER APPROACH TO HOMOGENEITY IN THE MENTALLY RETARDED

Esther Hirsch

Few, if any, special educators would doubt the necessity of homogeneous grouping for the mentally retarded. However, the current approaches used to achieve such homogeneous groupings are questionable. Some of these current approaches employ the CA, the IQ, the MA, or labels such as brain injury or emotional disturbance. All of these approaches are global and all of them may be ineffective in achieving homogeneous groupings in an educationally meaningful sense.

I would like to suggest a learning disability approach to the homogeneous grouping of some, but not all, mentally retarded children. A learning disability approach is defined as one which seeks to identify those cognitive areas in which a particular child is functioning adequately, and also those areas in which he is not functioning adequately. Consequently, the first aspect of this approach attempts to obtain a diagnosis of the child's learning characteristics which include both his learning abilities and his learning disabilities. The second aspect of this approach attempts to ameliorate the learning disabilities identified in the diagnosis. The learning disabilities approach has two inseparable aspects: (a) the diagnosis of the pattern of a particular child's abilities and disabilities and, (b) the remediation of the disabilities identified in the diagnosis.

The learning disability approach is specific as opposed to the current approaches mentioned earlier which are global. This approach is specific because in the diagnosis the child's exact level of functioning in each specific cognitive area is analyzed, and then all of the areas are synthesized into a total profile or pattern of functioning.

One number such as the IQ or one age level such as the MA is not used to represent the child's overall level of functioning. Rather, with a learning disability approach there is a composite picture of the interrelations of the different levels of functioning in the various cognitive areas. There is no assumption that the child is operating at the level of his MA in all areas, but instead, his exact level of functioning in all areas is directly determined.

If a mentally retarded child is diagnosed as having a learning disability, his profile of functioning in various cognitive areas is marked by peaks or high points of performance in some areas and by valleys or low points of performance in other areas. So a mentally retarded child with a learning disability shows an unevenness of development in different areas; whereas, a mentally retarded child without a learning disability shows a consistent level of functioning in the different areas measured. It should be stressed again that this approach to homogeneous grouping is only applicable to mentally retarded children with learning disabilities.

Recently, several tests have been developed which are very useful in the diagnosis of learning disabilities. The Illinois Test of Psycholinguistic Abilities, which samples nine cognitive areas involved in the development of language, is an excellent tool for implementing a diagnosis, but it still is in the experimental stage and consequently is marked with many flaws. Other tests which are useful, but limited in the scope of areas sampled, are Frostig's Tests for Visual Perception and Kephart's tests. Also, the Binet and WISC can be used for diagnostic rather than classificatory purposes, but there are many problems in using these two tests in this manner primarily because of the lack of a continuous developmental scale for each of the different cognitive areas measured and the lack of pure measures of these areas. Hopefully, in the future there will be tests developed which will allow for analysis of a greater range of cognitive areas. Learning processes such as incidental learning and verbal mediation, to name just a few, are areas which need to to be tapped diagnostically, but presently are not. However, the paucity and relative newness of the diagnostic tests available should not hinder the introduction of the learning disability approach for the homogeneous grouping of some mentally retarded children.

On the basis of the diagnosis, a remedial program is outlined. Such a remedial program attempts to ameliorate the learning disability identified in the diagnosis by use of the learning assets also identified in the diagnosis. Three general modes of instruction are possible for implementing such remedial programs. First, individual tutoring for each mentally retarded child with a learning disability could be instituted, but this is financially expensive, difficult because of the limited qualified teachers available, and this may be a very slow method because at the very most the remedial teacher can only see the child one hour per day. Another method for implementing remedial programs could be carried out within the framework of classrooms as they are presently organized for the retarded (that is, grouping based primarily on IQ and CA). However, I foresee two serious problems in this approach. For example, the teacher may have seven out of her 15 students with learning disabilities. Furthermore, these seven learning disabilities may be of seven different patterns or types. So the teacher may have to design seven different lessons for her students with learning disabilities. I doubt whether any teacher can successfully do this and also live to tell about it. Secondly, in such a setting the remedial work would have to be carried out on an individual basis by the teacher and in such a setting a teacher would be able to devote, at the most, about 15 minutes per day to each child which is just about enough time to get the child to stay in his seat.

I would like to suggest a third approach for implementing remedial programs and that is one where mentally retarded children with learning disabilities are grouped into special classes on the basis of their specific patterns of learning disabilities. For example, mentally retarded children with deficits in the visual motor areas and assets in the auditory vocal areas could be grouped into one class. If a school district were quite large, those children with the visual motor disabilities could be further grouped on the basis of their developmental level within their deficit areas. For example, those children functioning from the two to the four year level in visual motor areas might be in one class and those functioning from the four to six or seven year level might be in another class. In other words, mentally retarded children with learning disabilities would be grouped primarily on the basis of their patterns of learning characteristics. Only those mentally retarded children with learning abilities or assets in comparable areas and also learning disabilities in comparable areas would be placed in the same class. If a community were large enough, such children could be grouped secondarily on the basis of their level of functioning within their deficit areas. If secondary grouping were not feasible, then the teacher could accomplish this by subgrouping within the classroom.

In such a homogeneous special class the total curriculum could be planned around the amelioration of the children's learning disabilities. All teaching methods and materials would be selected in such a way so as to fit the children's learning characteristics. Consequently, this approach leads to a homogeneity of grouping which is educationally meaningful because it is possible to match the curriculum to the learning characteristics of the children. This is not possible with the other traditional approaches because the homogeneity which results is based on a global measure which does not give any information on how a particular child can or cannot learn. The use of these traditional approaches has led to one, broad undifferentiated program for all mentally retarded children. Often this program is a watered down curriculum. The reverential use of the IQ and the MA may result in a curriculum of school work which is the same as that given to normal children of the same MA as the mentally retarded children. For mentally retarded children with learning disabilities, and who. by definition, are not functioning at their MA level in all areas, such a program will be inappropriate and will inevitably lead to failure.

However, with a learning disability approach the following implicit question is necessarily involved: What type of educational program or curriculum is best for what type of mentally retarded child? This question brings two important issues to the fore: (a) the learning disability approach recognizes that not all mentally retarded children are alike just because they have the same IQ. Mentally retarded children are as heterogeneous as normal children in their learning characteristics. Consequently, this leads to the second issue. If there are many different types of mentally retarded children, then there are many different types of educational programs for mentally retarded children. There is no one program that is equally adequate for all mentally retarded children, but rather there are many different programs or curriculums which can be used. The adequacy of any program must be measured by how well the program fits the learning characteristics of the particular children who will receive the program.

Another advantage of classroom grouping on the basis of learning disabilities is that such an approach allows for a total push program aimed at ameliorating the deficit areas. The teacher would not have to limit her remedial attention to each child with a different pattern of learning characteristics to 15 minutes or one-half hour, but rather the total group, the small group, and the individual activities of the entire day could be structured in such a way as to remediate the disabilities.

At the present time the learning disability approach suggested as a basis for homogeneous grouping for some mentally retarded children has these disadvantages. First, the diagnostic tests necessary for implementing this approach are few in number, limited in scope in terms of the number of cognitive areas measured, and are in the experimental stages. However, if this approach were adopted for use with the mentally retarded diagnostic test would probably multiply. Secondly, the remedial methods and material appropriate for each pattern of disability have not yet been fully delineated and evaluated. Thirdly, the characteristics or cognitive areas used for grouping may be different at different ages. For example, at the primary and intermediate levels the cognitive abilities underlying academic success would be sampled, but at the secondary level learning characteristics involved in the vocational and social areas might be sampled and used as a basis for grouping and remedial instruction. No matter what the characteristics used, the principles of diagnosis, remediation, and grouping remain the same. A fourth problem which might result from the establishment of this approach would involve the lack of training of special class teachers in remedial methods. At the present time special class teachers are trained primarily in elementary school methods which also may be a factor which contributes to the preparation of watered down curriculums for the mentally retarded. I suggest that the training of teachers of the mentally retarded should include principles and methods of remedial instruction. Finally, the fact that this approach is not equally applicable to all mentally retarded children may be viewed as a disadvantage. However, I tend to think of this as an advantage because it involves the recognition of the various types of educational programs which are necessary for the different types of mentally retarded children.

In terms of advantages this approach provides a specific, definable purpose for the curriculum which is, of course, the remediation of the specific learning disabilities of a particular group of mentally retarded children sharing comparable patterns of cognitive functioning. Too often, programs for the mentally retarded are directionless or have global purposes (such as self-realization) which rarely give direction to the curriculum, or for that matter, have any relation to the materials and methods used. On the other hand, a learning disability approach provides a standard for evaluating all materials and methods used. On the other hand, a learning disability approach provides a standard for evaluating all materials and methods used: This standard is the fit of the methods and materials to the specific learning characteristics of the children.

A second advantage of this approach inheres in the fact that it seeks to eliminate the unevenness of development in the different cognitive areas. Consequently, this approach involves the assumption that the cognitive abilities which comprise intelligence can be educated. According to this view both the teacher and the children play active roles. The teacher actively and creatively educates the children by structuring the appropriate environment for the children's specific learning characteristics. She does not passively wait for maturation to take its course; rather, she actively creates an environment in which growth and development can occur. The child, too, is active as he is not viewed as a static, unchanging individual as the proponents of the concepts of fixed intelligence and predetermined development would view him. Rather, the child is active, dynamic and capable of change if provided with an appropriate educational environment.

MENTAL RETARDATION AND THE CULTURALLY DISADVANTAGED

David E. Hunt

During the past few years an increasing number of projects have attempted to enrich the educational experience of culturally disadvantaged children. The Higher Horizons project in New York City was one of the most publicized earlier attempts, and it seems likely that such programs will continue to increase with the current emphasis on improving the lot of culturally disadvantaged students. These programs, of course, aim to increase the educational achievement level of the students, but most of them also have another more generic aim which may be stated in terms of enhancing the students' feelings of self-worth, general adequacy, or some other description implying an increase in maturity. This implicit aim probably represents, in part, the disenchantment with achievement scores as the only indicators of educational outcome. However, although most programs state rather lofty purposes regarding enhancing self-concept, creativity, and the like, the effects of the program are almost always based entirely upon change in achievement scores.

It was within the context of this lack of indicators of any adequate criteria for change in nonachievement or personality factors that we began about three years ago, a project on indicators of developmental change in lower class children. The initial strategy was simple. Since there was available at that time an unverified but potentially promising developmental theory (Harvey, Hunt, and Schroder, 1961) we proposed to explicate this viewpoint in relation to culturally disadvantaged children and to attempt to devise measures which would permit the classification of these children into their present stage of development. Apart from the interest in learning more about how well the developmental theory worked, it was felt that if such measures could be made available, they would provide potentially valuable indicators to be used in determining the effectiveness of various programs designed to enrich the educational experience of culturally disadvantaged students. Obviously, in order for such indicators to be useful, the investigator must accept the value assumptions in the theoretical network, i.e. agree that the higher stages are indeed more valuable and desirable. If so, then one might administer the measures prior to the intervention, institute one or more programs for a period of time, and then readminister the measures upon their completion. Then the change, if any, would presumably reflect at least in part the effect of the particular intervention.

Although the strategy seemed simple, there was also an initial awareness of several problems. First, most of the indicators proposed were paper and pencil measures relying on verbal skill, an area in which culturally disadvantaged students are neither proficient nor particularly well motivated. Second, when attempting to devise indicators of developmental change one needs some assurance that some change is in fact occuring which might be measured. Since a junior high school population of culturally disadvantage students were studied, the possibility that there was very little discernible development occuring was a strong possibility.

During the course of the project which began with the aim of devising indicators of developmental change, we also learned something about differential treatment. A student's current developmental level may be viewed not only as premeasure of assessing change, but also as the basis for specifying the form of intervention which is most likely to be effective. During the course of the project the opportunity occurred to form classroom groups which were similar in developmental stage and to evaluate the educational relevance of such homogeneous groups, an experience which led to some interesting results.

First, there will be an attempt to describe the present theoretical view of the course of development, then a summary of the characteristics of each stage will be presented along with an outline of the application of the developmental theory to homogeneous classroom grouping and its implication for differential educational treatment, and finally some of the initial results of developmental change will be mentioned.

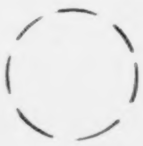
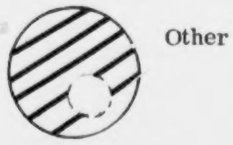
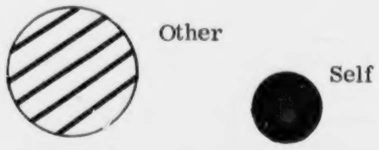
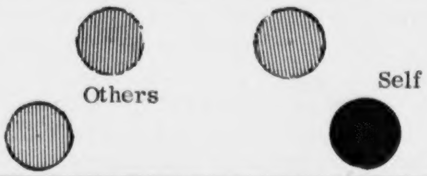
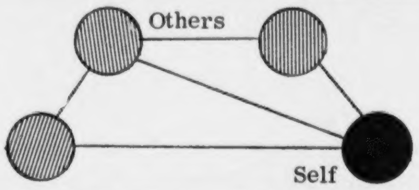
The Course of Development

From the Conceptual Systems view, the developmental process is a continuous one which under optimal conditions proceeds in a given order to a higher conceptual level. This is analyzed as a continuous process in stages as one might represent a motion picture sequence by selecting representative still shots from the sequence. These developmental stages (Harvey, Hunt, and Schroder, 1961; Hunt, 1964) characterize the person's interpersonal orientation, and the major stage characteristics deal with the conceptual work occurring at a given stage. This developmental theory emphasizes interpersonal aspects pertaining to learning about oneself, about others, and the relation between self and others, as well as structural organization. Roman numerals are assigned to each developmental stage to indicate increasing conceptual level. This can be seen in Figure 1 (Hunt, 1964).

The major developmental work of Stage I is that of defining the external boundaries and learning the generalized standards which apply to both self and others. This learning of ground rules is the basic assimilation of cultural norms and expectations. When a child is articulating Stage I he manifests features of moral realism described by Piaget (1932) in his literal concern with rules and compliance to them. Events, therefore, are interpreted categorically as either good or bad.

Figure 1

Developmental Stages in Interpersonal Orientations

Stage	Self-Other Orientation	Stage Characteristics
Sub I		Self-centered, unorganized phase before incorporation of cultural standards.
I		Learning the "ground rules" or cultural standards which apply to everyone.
II		Learning about oneself and how one is distinct from these generalized standards.
III		Applying these self-anchored dimensions to an empathic understanding of other persons and differences between them.
IV		Placing the dimensions applicable to self and others into a meaningful integrated relation.

The generalized standard assimilated in Stage I serves as the anchoring basis for self-delineation, the major work of Stage II which occurs through a process of breaking away from the standard. To learn about how one is distinctively oneself provides the basis for beginning to accept individual responsibility for outcomes. This initial expression of independence may appear in exaggerated form but nonetheless this stage marks the first awareness of one's own feelings as cues for differential action.

The self-understanding acquired in Stage II serves as the empathic basis for understanding the feelings and experiences of others as being similar to or different from one's own feelings and experiences. This empathic matching in Stage III serves to generate a more highly differentiated interpersonal orientation. Although the person may have discriminated between others in terms of expected roles at a more concrete stage, the first awareness of others in terms of their own personal feelings and value occurs at Stage III.

The work at Stage IV consists of the integration of standards which are applicable to both self and others enabling the person to understand both himself and others as occupying different positions on the same, transcendant dimension rather than being simply on different standards.

In summary, one must assimilate the norms of the generalized standard (Stage I work) before delineating oneself from it (Stage II work). Similarly, initial self-understanding (Stage II) is a prerequisite to an empathic understanding of others (Stage III). Thus, the hierarchy of stages rests on a logically related sequence.

Because none of the students in the present population were classified higher than Stage II the three lower stages were used in the present discussion -- Sub I Stage , Stage I, and Stage II. Before considering the characteristics of these stage levels in more detail, the theoretically expected effect of training conditions or environments upon continuing development or arrestation should be noted. Figure 1 summarizes the course of development under optimal conditions. When conditions are not optimal, however, the developmental process will be arrested, and the specific orientation associated with that level becomes a relatively pervasive pattern for the person. For example, a person arrested at Stage II (or closed to progression to use an equivalent term) is likely to relate to others primarily in terms of defining himself.

We have developed methods of classification for stage level which appears promising. However, we have not as yet devised measures appropriate for the assessment of the person's being open or closed to progression. Variation in openness is exemplified, for example, at Stage I by the literal six year old, on the one hand, who, at this time accepts rules as absolute, but who may with optimal conditions soon abandon this Stage I orientation for a more abstract developmental stage contrasted with the highly conforming, compliant adolescent on the other hand for whom any form of deviance is very threatening. Obviously, making such distinctions is important and we are working on measures which will provide such information but at this time none are available. We think on an intuitive basis that most of the students in the culturally disadvantaged sample with whom we have worked are very likely closed to progression, and the work we describe is probably best understood if viewed in this light. Parenthetically, it might be noted that from the present theoretical viewpoint, all children described in this specific panel (emotionally disturbed children, delinquents, and culturally disadvantaged children) are seen as relatively closed in their orientation.

Stage Characteristics

The strategy in attempting to learn more about these developmental stages and to devise measures for stage classification has been a combination of theoretical deduction interspersed by empirical observation with an attempt to maintain an optimal pacing between the two. The author began with a few theoretically expected stage characteristics which were tried out with a ninth grade group by administering what at that time was the most appropriate instrument (a variation of a sentence completion method) which was coded for developmental level and interviewing the students. Both measures were used for classification. This experience enhanced an understanding of the nature of stages (and incidentally led to the first use of the Sub I category in adolescent populations). Later work was extended to seventh and eighth grade students and more measures were used to attempt to broaden the referents which might be used for stage classification.

Sub I Stage Characteristics

In the present population of culturally disadvantaged adolescents, the Sub I orientation is thought to be characterized by a failure to incorporate the generalized standard along with an attempt to break away from this incompletely assimilated standard. The most central feature of this unsuccessful attempt to oppose a standard which has not been assimilated is concrete negativism (this group is originally identified through their sentence completion responses which are scored as very concrete and also very negativistic). Empirical support for this expectation comes from the finding that the Sub I stage group is significantly higher than the Stage I group on a Negative Attitude to School scale (Cattell and Gruen, 1954). Because of his relatively defective socialization experience the person oriented to the Sub I stage is expected to seek immediate gratification and to related to others in a very egocentric, self-centered fashion. Supporting this expectation is the finding that the Sub I group scores significantly higher than the other two groups on a self-protective scale which measures a person's defensiveness against accepting potentially negative information. When performance on a verbal intelligence test (California Test of Mental Maturity) is considered, the mean score of the Sub I group (85.9) is significantly below that of the Stage I group (90.6) and the Stage II group (93.2). However, on a nonverbal intelligence test, the Peabody Picture Vocabulary Test (Dunn, 1959), the inferiority of the Sub I group is much less pronounced, suggesting the possibility that the lower score on the verbal test may be in part a function of their negative attitude to school and to school-like materials which a verbal test represents. At a structural level, the Sub I group have less differentiated concepts and are less well able to coordinate new information into a meaningful pattern.

Stage I Characteristics

The major focus of the Stage I orientation is upon normative standards of right and wrong, and with one's conformity to such standards. On the Children's Social Desirability test (Crandall, Crandall, and Katkovsky, 1965) which measures the person's tendency to give the proper, socially acceptable response even though it may not necessarily be an accurate report (e.g. responding true to "I am always polite even to people who are not very nice") the Stage I group scored significantly higher than the other two stage groups. As noted above the mean intelligence score of the Stage I group is slightly lower than that of the Stage II group. However, the grades obtained by the Stage I group in English and Social Studies are higher than the Stage II group. Assuming that achieving a high mark indicates the successful acquistion of the prescribed material (i.e. "Making the correct response"), then this relative overachievement of the Stage I group also appears to support the expected emphasis on culturally expected standards.

Stage II Characteristics

The Stage II orientation is concerned with self-distinctiveness in contrast to the self-centeredness of Sub I Stage so that such persons are more likely to focus on self-responsibility. For example, several persons in this group when interviewed emphasized the independence on the part of both student and teacher, e.g. a typical response to a question of what is the best way for teachers to teach was "Just teach and if somebody acts up, just let him. If they don't pay attention it's up to them." This group is highest of the three stage groups on a task requiring one to bring together new material by devising a new concept which apparently reflects their higher conceptual level. Although persons at Stage II may not perform well on objective examinations, they are more likely to ask questions, and evidence from young adults (Claunch, 1964) indicates that persons at higher conceptual levels are more likely to perform well when examinations require critical thinking and analysis rather than simple response repetition.

Developmental Stage and Differential Educational Treatment

Although the original purpose in stage classification was to establish a developmental bench mark from which change could be evaluated, the person's conceptual level may also serve as the basis for understanding and specifying what specific form of environmental intervention may lead to such development (Hunt, 1961). Therefore, there is a shift from the unplanned change which may occur in relation to a developmental model to the planning of change through what is thought of as a change model (Hunt, 1964). The term, "change model" is frequently used in areas of industrial organization, group development, and group work, but it is equally applicable to planning educational and therapeutic intervention. By a change model is meant a set of logically derived statements of the "if -- then" variety which are conditional upon the developmental stage of the person with whom one is working. Thus, if the present stage or conceptual level is known, then it is possible to derive the specific environment most likely to produce progression for that person. The issue is not "which environment is best?" but rather "which environment is most likely to produce the desired effect for a specified person or persons?" That educational environments such as highly organized or completely free classrooms are differentially effective with students of varying personalities or abilities, is widely recognized. An attempt here is to coordinate or match the environment and person most effectively by use of a theoretical model; in this sense the present change model has aims which appear to be identical to the differential treatment model used by Dr. Warren and her colleagues.

The environmental prescriptions for each stage are derived from the conceptual work in Figure 1 by simply reasoning that the optimal environment for a person at a given stage will be that one which will foster the specific conceptual work at that stage. These stage specific optimal environments which summarize the change model are shown in Table 1.

Table 1

Stage Characteristics and Optimal Environments

Stage	Characteristics	Optimal Environment
Sub I	Impulsive, poorly socialized, egocentric, inattentive.	Accepting but firm; clearly consistent with minimum of alternatives.
Stage I	Complaint, dependent on authority concerned with rules.	Encouraging independence within normative structure.
Stage II	Independent, questioning, self-assertive.	Highly autonomous with numerous alternatives and low normative pressure.

Assuming that the developmental stage of the student is known, the present model is applicable to one individual or to a small group of students within a heterogeneous classroom. However, the most dramatic application of the model occurs when the entire classroom is homogeneous with regard to developmental stage. The author encountered the opportunity to apply the model and to evaluate its potential educational utility by homogeneous classroom grouping based only on developmental stage which was done over a period of three semesters. After a one semester pilot investigation in which three ninth grade classroom groups were formed, three stage-similar classroom groups at each of the three grades in the junior high school and these classroom groups were formed and maintained throughout the entire school year. Since this turn of events was not anticipated within the project it was not possible to take full advantage of the opportunity presented, e.g. specifically programing environments for specific stage groups. However, it did present an opportunity to learn a great deal about the potential educational relevance of the model. During the pilot study the teachers (and observers) were unaware of the nature of the groups so we were able to use the teachers as measuring instruments. However, the more extensive grouping study was actually more of an action than a research project since we not only told the teachers the nature of the groups, but also held weekly inservice training sessions with them to attempt to facilitate the effectiveness of their knowledge of a student's developmental stage. Therefore, although some of the teachers' impressions are potentially biased, their reactions will give some flavor of the kind of empirical fit of the model in the classroom.

Optimal Environment for Sub I Stage

A clearly structured, well organized classroom is likely to be most beneficial for students at this stage. Teachers working with Sub I groups found for example that it was necessary to develop specific procedures for coping with their very short span of attention. Some of the following are teacher comments suggesting what they found to be most effective with the Sub I group: "In this class I do a lot more visual things, demonstrations showing them the actual thing, by demonstrating rather than having them show me what they know about it. If I can get them busy immediately, with a writing exercise, things settle down... when it comes to discussion, we had to drop the whole thing it got out of hand, out of control." The usual slow learning procedures, drilling, going over the same thing many times to make sure that everyone had it." "If somebody in the Sub I group asks a question, then maybe the person will pay attention but you lose all the others... if you have them."

One teacher's comment is especially relevant: "You can bring in self-control for them even though they lack it on their own... If everyone is supposed to do a lesson, some do it more quickly and so you say when you're finished, you can select either a short story or plays to read. After you've given them this structure then they can begin to make this simple decision on their own... sit down with something in front of them, and you go around and talk to them individually, this seems to work best."

Optimal Environment for Stage I

The optimal environment for encouraging progressive development at this stage is expected to be one which encourages some independence within a normative structure. Such independent activities and self-determined participation must be introduced gradually, however, since persons at Stage I are very dependent on normative expectations. Teachers found, for example, that the most effective educational environments for this group were likely to be those in which activity was clearly organized with an opportunity to compare oneself with the normative standard. One teacher commented, "This class is very competitive so I put them in seats according to their scores on tests... when you get a lot of competition, that's good and they're very competitive." Another teacher found that the use of debates was very effective. In both instances, the student is behaving in relation to a standard, either a score on an examination or the pro versus con in a debate structure. It should be noted that such procedures, although immediately facilitating, are unlikely to encourage development to a higher conceptual level since there is little opportunity for beginning to delineate oneself.

Optimal Environment for Stage II

The optimal environment for persons at Stage II is one which is highly autonomous with numerous alternatives available and low normative pressure. Teachers gave the following comments about Stage II groups, "Although there is a need to contain them I would rather have a group jumping out of their seats because even though they give me a rough time, it's bordering on a delightful experience because they've got you going, they've got you hopping all the time" and in regard to debates, 'with Stage II they don't want debates... you don't want to structure that or else you lose the whole thing because everybody wants their say... with a debate they think you're stifling them, you're directing them and this is what they don't like."

Teachers and observers report that students in Stage II groups frequently ask "why" and do not take teacher statements at face value. This high incidence of inquiring suggests that the discovery method or inquiry training (Suchman, 1961) might be especially effective for them.

One other teacher reaction was noteworthy. Those teachers who also taught unclassified classroom groups (only half of the 360 students were in stage-similar groups) began to ask what the unclassified students were like and what procedures were most likely to be effective for them. Apparently an unanticipated benefit from grouping is to produce a general sensitization in teachers to variations in students whether they are grouped or not.

The differential reactions of these students, almost all of whom would be considered "culturally deprived" deserves mention. Most authors, e.g. Riessman (1962) speak of the culturally deprived child as a monolithic entity. In contrast, these results emphasize the importance of considering variations within this group. Studying personality variations within lower class children not only has the advantage of understanding these children more adequately, but it also provides the basis for seeing similarities existing between them and middle class children as well as differences since stage classification is equally applicable to persons of different social classes.

Developmental Change

We will conclude with some of the results available on the indicators of change. A battery of paper and pencil tests including the sentence completion test, Children's Social Desirability Test, Cattell Negative Attitude to School Scale, Cattell 16 PF, and a specially designed Situational Picture Experiment was readministered to the entire population toward the end of the project year. All of these instruments were scored in terms of theoretically derived or empirically constructed scales for measuring developmental level. Using these scores as a post measure we calculated change scores on the various indices for each of the students. In addition to these measures we also obtained from the school achievement measures such as scores on the Iowa test so that achievement change scores could also be calculated. Since the geographic mobility in this group is high, there was only around 200 of the 360 students for whom we had measures for both years and could calculate change scores.

Although we had initially intended only to develop change indicators, our experience with homogeneous grouping and explicating the model along differential treatment lines made us aware of the difficulty of developing change indicators outside the context of an intervention program. One can here simply administer measures at yearly intervals to the same subjects as we did and note the change or lack of it which occurs. However, within the present theoretical viewpoint there are many students for whom we would not expect change to occur so that this overall approach is very imprecise. Ideally, one would provide optimal environments for certain stage groups and compare their change with control groups, a procedure which we plan to carry out when the educational environment can be more carefully controlled.

First, let us consider the index that was relied on most for stage classification: level of abstractness based on the sentence completion method. The overall mean change in abstractness from the first to the second year for 191 students for whom we had scores on both occasions was exactly zero. This lack of change is somewhat puzzling in that we have found cross sectional increases in abstractness scores with grade. (Mean scores increased from .74 in seventh grade to 1.05 in ninth grade). However, the test-retest reliability coefficient over the one year period was .327 which is quite discouraging. There are no specific ground rules for how reliable a measure should be if it is to reflect change, and we know that if a measure is too stable that it may be insensitive to changes which occur, but nonetheless this reliability coefficient seems quite low. Some of the objective indices yielded higher reliability coefficients, but these measures show less construct validity.

If change is considered as a function of differential treatment rather than in an overall sense, then it appears that students who were placed in homogeneous classroom groups were more likely to improve in achievement test scores than were unclassified students. This analysis has not been completed as yet but an impression has been obtained that if circumstances in which change can be expected to occur is specified precisely, the more effective is the understanding of what is going on. As an example, one can look at a particular subject matter outcome (e.g. change in mathematics achievement score or change in negatives) as a function of a specific classroom group interacting with a specific teacher.

Up to this time it is felt that we have been fairly unsuccessful in devising indicators which will reflect developmental change in a sensitive fashion, but that some of the measures employed in a battery for purposes of stage classification may be useful for identifying students in a program of differential educational treatment.

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THE INFLUENCE OF VERBAL STATEMENTS UPON THE PERFORMANCE OF MENTALLY RETARDED CHILDREN

Richard K. Myers
Godfrey D. Stevens

The efficacy attributed to the special class as an organizational pattern for the education of educable mentally retarded children has not been supported by empirical evidence. The substantial investment of financial and professional resources in promoting and maintaining special classes for educable mentally retarded children has yet to be justified. The continued emphasis on providing appropriate educational activities to retarded children increases the need to identify and understand the variables influencing the learning process in mentally retarded children. Increased understanding of the facilitating and/or interfering qualities of the variables contributing to the learning process should enable educators to improve the educational process by which educational objectives are achieved.

Objectives

1. To determine the influence of high and low manifest anxiety on the performance of educable mentally retarded children on three selected learning tasks.
2. To determine the influence of verbal statements of performance expectations delivered by an authority figure on the performance of educable mentally retarded children on three selected learning tasks.
3. To determine the influence of the sex of the subject on the performance of educable mentally retarded children on three selected learning tasks.
4. To determine the influence of the various interactions among anxiety level, verbal statements of performance expectations delivered by an authority figure, and the sex of the subjects on the performance of educable mentally retarded children on three selected learning tasks.

Procedures

General Design. Twelve groups, each consisting of six educable mentally retarded children, constituted the subjects of this study. Six of the groups consisted of subjects designated high anxious (HA) and six of the groups consisted of subjects disgnated low anxious (LA). The designation of high and low anxious was determined on the basis of extreme scores on the Children's Manifest Anxiety Scale (CMAS). The 36 HA and 36 LA subjects were randomly assigned to either one of two experimental conditions or to the control condition. The two experimental conditions were designated the encouraged (E) and the discouraged (D) treatments and the control condition was designated the neutral (N) treatment. Twenty-four subjects were assigned to each condition.

The two experimental conditions employed in the study were established through verbal statements designed to produce either an expectancy of success (ES) or an expectancy of failure (EF). The control condition was devoid of verbal statements, thus establishing a neutral expectancy (EN) of neither success nor failure. Identical task instructions were employed for the three conditions. Verbal statements designed to produce ES included, "This will not be too hard for you," "You should do very well on this," "I expect you to do well on this," etc. These statements were designated ES-1 and were delivered during the period of instructions and prior to the learning trials. Other statements, designated ES-2, were delivered during the intertrial rest periods and included, "You are doing fine but I want you to do better this next time," "Fine, but I think you can do better this next time," etc. Verbal statements designated EF-1 included, "I know this will be hard for you," "You will not do well on this," etc. The EF-2 statements included, "I know this is hard for you," "I didn't expect you to be very good at this," etc. A total of 20 verbal statements, four ES-1, six ES-2, four EF-1, and six EF-2, were used. The statements were selected on the basis of a pilot study from a pool consisting of statements specifically designed for the study and statements employed in other investigations.

The statements were delivered by the examiner who was well known to the subjects as an authority figure somewhat analogous to that of a principal. An attempt was made to increase the subjects' acceptance of the validity of the verbal statements by employing an unsolvable problem prior to exposure to the three learning tasks.

An equal number of boys and girls were included in the study. High (N=36) and low (N=36) manifest anxiety, encouraged (N-24), discouraged (N-24), and neutral (N=24) treatments, and male (N=36) and female (N=36) constituted the independent variables of the study.

The 72 subjects were exposed individually to the three treatment conditions and to the three learning tasks. The three learning tasks used in the study consisted of an object assembly task, a digit substitution task and a concept identification task. The tasks were selected as representative of three types of learning (motor, rote, and abstraction) varying in complexity. The three tasks were presented for a minimum of five learning trials.

Subjects. The 72 educable mentally retarded subjects employed in the study were selected from an original population of 400 retarded children enrolled in 33 special classes conducted by the public schools of Beaver County, Pennsylvania. The CMAS was orally administered to the original population individually or in small groups. Children with gross motor and/or sensory defects, identifiable emotional disturbances, mental ages below seven years, zero months, and intelligence quotients below 50 or above 79 were excluded as possible subjects. Children who did not understand the CMAS statements, who presented a pattern of responses suggesting a possible response set, and/or who obtained a CMAS lie score of eight or above were also excluded from the study. A total of 125 children were excluded.

The upper third of the distribution of CMAS anxiety scores was designated the HA group. The HA group consisted of 80 children, 40 boys and 40 girls. Anxiety scores ranged from 25 to 42 with a mean of 29.48 and standard deviation of 1.93. The lower third of the distribution of CMAS Anxiety scores was designated the LA group. The LA group consisted of 93 children, 68 boys and 25 girls. Anxiety scores ranged from 3 to 17 with a mean of 12.18 and standard deviation of 3.69.

From the 40 HA boys, 40 HA girls, 68 LA boys, and 25 LA girls available for possible inclusion in the study, 18 boys and 18 girls were randomly selected from each of the two anxiety groups. The 72 subjects were then randomly assigned to the two experimental and to the control conditions. Random assignment to the three treatment conditions was conducted separately for each sex group from each anxiety group. As a result of the procedures used, six boys and six girls from each of the anxiety groups were assigned to each of the three treatment conditions.

Analyses of variance procedures were employed to test for differences in group means related to the main effects and all interaction effects of the sex, anxiety, and treatment variables. Separate analyses were performed for CMAS anxiety scores, CMAS lie scores, MA, CA, and IQ. The resultant F values were not significant for sex, treatments, or any of the interactions of anxiety, sex, and treatments. Significant F values were found between anxiety groups. The HA group and LA group differed significantly on CMAS anxiety scores ($\underline{F}$=367.25, df=1 and 60, $\underline{F}$.05=4.00). This difference was to be expected since the anxiety groups were selected from the extremes of the anxiety score distribution. However, significant F values were also obtained for differences in MA and CA between anxiety groups. The LA group was found to have a significantly higher mean MA ($\underline{F}$=4.22, df=1 and 60, $\underline{F}$.05=4.00) and a significantly higher mean CA ($\underline{F}$=5.15, df=1 and 60, $\underline{F}$.05=4.00) than the HA group. No differences were found between anxiety groups on CMAS lie scores or IQ.

The finding of significant differences in CA and MA between HA and LA groups introduced the need to control for these differences. Efforts to control for group differences in CA and MA through ordering the subjects were unsuccessful. Statistical control through analysis of covariance procedures was deemed necessary.

The CA's of the 72 subjects ranged from 117 months to 223 months with a mean of 172.36 months. The MA's of the subjects ranged from 82 months to 143 months with a mean MA of 112.03 months. IQ's ranged from 53 to 78 with a mean of 69.00. The CMAS lie scores ranged from zero to seven with a mean of 4.78.

Data and instrumentation. The data collected from the study consisted of both raw scores obtained from the three learning tasks and composite gain scores derived from the raw scores. The data collected from the Digit Substitution Task and the Concept Identification Task consisted of correct responses for each of the learning trials. The data from the Object Assembly Task consisted of time scores for each learning trial. The gain scores were calculated by multiplying the raw score obtained on the first trail by the number of trials and subtracting this sum from the total raw scores for all learning trials $(X_1 + X_2 \ldots + X_n - {}_nX_1)$.

The three learning tasks selected for the study were as follows:

1. Object Assembly Task (OAT). The task, designed as a nonsense task, consisted of a five part wood assembly. The subject, after a brief instruction and practice period, was required to disassemble and reassemble five identical assembly units as quickly as possible. The task was presented for five trials with a 30 seconds rest period between trials. The total time to disassemble and reassemble the five assembly units was recorded for each trial. The task may be viewed as primarily a sensorimotor learning task involving perceptual-motor skills. The task was selected and adapted for the study to represent a simple learning task with few competing response alternatives.

2. Digit Substitution Task (DST). The task consisted of the Arabic numerals one through nine randomly assigned to represent the first nine letters of the alphabet. The subject, after a brief instruction and practice period, was required to write the correct number in a blank box immediately below the appropriate letter. The task was presented for five trials with a 30 seconds rest period between trials. The subject was permitted 60 seconds to complete a possible maximum of 72 correct responses for each trial. The number of correct responses during the one minute period was recorded for each trial. The task may be viewed as a paired associates learning task involving rote learning of stimulus-response associations and motor dexterity. The task was selected for the study to represent a task of intermediate difficulty.

3. Concept Identification Task (CIT). The task consisted of eight three-word sets representing the four concepts of large, small, round, and white. Two different three-word sets were used for each concept. The subject, following a brief instruction and practice period, was required to identify and verbally report a similarity within each set of words. The task was presented for six trials with a 30 seconds rest period between trials. The subject was permitted 20 seconds to respond to each set of words. The number of concepts correctly identified was recorded for each trial. The task may be viewed as an abstraction task. The task required the subject to use concepts previously acquired as opposed to concept formation or the acquisition of new concepts. The task was selected for the study to represent a complex learning task involving many competing response alternatives.

Analysis of the Data. An analysis of covariance technique was employed to analyze the results of the 2 x 3 x 2 randomized blocks design. Both MA and CA were designated covariants. This procedure was applied to both raw scores obtained from each trail of each learning task and to composite gain scores calculated for each task. In addition, an analysis of variance technique was employed to analyze selected results of the design. These procedures, applied to each learning task, permitted detection of overall differences in means for groups arranged on the basis of anxiety level, treatment conditions, and sex. The statistical procedures selected also permitted detection of group differences related to the interaction of the three main independent variables. The assumptions underlying the statistical procedures employed were tested.

Results

- Object Assembly Task (OAT). There were no differences in mean OAT scores attributable to anxiety grouping, sex grouping, treatment conditions, or interactions of these variables independent of or related to the five learning trials.

- A significant change (F=49.79, df=4 and 200, F.05=2.41) in mean OAT scores occurred over the five learning trials. The trend of the mean scores was to decrease with successive trials. The trend of the change was linear in form (F=163.40, df=1 and 200, F.05=3.89).

- A significant difference in mean OAT gain scores was found between anxiety groups when CA and MA were designated covariants (F=4.33, df=1 and 55, F.05=4.02). The LA group had a significantly higher mean OAT gain score than the HA group. No other differences in mean gain scores were found for sex grouping, treatment conditions, or interactions of the three independent variables.

- The null hypothesis of no differences in variances among the experimental groups was supported for trial 4 and for the composite gain score but was not supported for trials 1, 2, 3, and 5 of the OAT.

- The F values obtained to test for differences in regression lines among CA, MA, and OAT scores were significant for trials 1, 2, 3, 4, and 5 and for the composite gain score. The assumption of parallel regression lines underlying the analysis of covariance procedures was not supported for the OAT Data.

- Digit Substitution Task (DST). The trend of mean DST scores related to the verbal treatments differed significantly for boys and girls (F=3.68, df=8 and 200, F.05=1.98). Boys under the encouraging treatment were superior to boys under either of the other two treatment conditions. The trends of the mean DST scores for boys, in order of decreasing magnitude, were highest under the encouraging treatment, neutral treatment, and discouraging treatment. The trends of mean DST scores for girls, in order of decreasing magnitude, were highest under the discouraging treatment, encouraging treatment, and neutral treatment.

- There were no significant differences in mean DST scores attributable to anxiety level, sex grouping, treatment conditions, or interactions of these variables independent of or related to learning trials other than the sexes x trial x treatment interaction.

- A significant change (F=44.32, df=4 and 200, F.05=2.41) in mean DST scores occurred over the five learning trials. The trend of the mean scores was to increase with successive trials. The trend of the change was linear in form (F=171.23, df=1 and 200, F.05=3.89).

- A significant difference in mean DST scores was found between HA and LA groups on the first trial of the DST when MA and CA were designated covariants (F=4.11, df=1 and 55, F.05=4.02). The LA group performed at a significantly higher level than did the HA group. No significant differences in performance attributable to anxiety level were found for the remaining four trials. No significant differences in DST scores were found for any of the five trials related to sex grouping, treatment conditions, or interactions of anxiety, sexes and treatments.

- A significant difference in mean DST gain scores was found attributable to anxiety grouping when group differences in CA and MA were controlled (F=5.52, df=1 and 55, F.05=4.02). The mean DST gain score was significantly higher for the HA group than for the LA group.

- The F value for the first order interaction of sexes x treatments was significant for DST gain scores (F=4.24, df=2 and 60, F.05=3.15). The mean DST gain scores for boys were highest under the encouraging verbal treatment and lowest under the discouraging verbal treatment. The pattern for girls, in order of decreasing magnitude, was discouraging verbal treatment, neutral treatment, and encouraging verbal treatment. No other differences in mean DST gain scores were found attributable to sexes, treatments, or interactions.

- The null hypothesis of no differences in variances among the experimental groups was supported for the DST.

- The F values obtained to test for differences in regression lines among CA, MA, and DST scores were significant for trials 1, 2, 3, 4, and 5 and for the composite gain score. The assumption of parallel regression lines underlying the analysis of covariance procedures was not supported for the DST data.

- Concept Identification Task (CIT). A significant sexes x anxiety interaction independent of trials was found on the CIT (F=5.25, df=1 and 60, F.05=4.00). LA boys obtained higher CIT mean scores than HA boys, LA girls, or HA girls. HA girls obtained higher CIT scores than LA girls or HA boys.

- The trend in mean CIT scores related to treatments differed significantly for boys and girls (F=2.24, df=10 and 200, F.05=1.87). The trend in CIT mean scores for boys was highest under the encouraging verbal treatment and lowest under the neutral treatment. The trend of the scores for boys under the discouraging verbal treatment was in an intermediate position. The trend in CIT mean scores for girls was highest under the neutral treatment and lowest under the discouraging verbal treatment. Girls under the encouraging verbal treatment were in an intermediate position.

- There were no significant differences in mean CIT scores attributable to sex groups, anxiety groups, treatment groups, or interactions of these factors independent of or related to learning trials with the exception of the sexes x anxiety and the sexes x treatments x trials interactions.

- A significant change (F=44.00, df=5 and 200, F.05=2.26) in mean CIT scores occurred over the six learning trials. The trend of the mean scores was to increase with successive trials. The trend of the change was linear in form (F=193.82, df=1 and 200, F.05=3.89).

- With group differences in CA and MA controlled, a significant difference in mean CIT scores was found on trial 2 between boys and girls (F=4.43, df=1 and 55, F.05=4.02). Boys performed at a higher level on trial 2 than girls. This significant main effect for sexes was not found for the other five trials of the CIT.

- Two significant first order interactions were found for trials 4, 5, and 6 with group differences in MA and CA controlled. The sexes x anxiety F values of 4.01, 4.23, and 4.81 (df=1 and 55, 4.05=4.02) and the sexes x treatments F values of 3.79, and 4.92 (df=2 and 55, F.05=3.17) were significant. HA girls obtained higher mean CIT scores than LA girls on trials 4, 5, and 6. However, LA boys obtained higher mean scores than HA boys on trials 4, 5, and 6 of the CIT and higher scores than HA girls. Boys under the encouraging verbal treatment obtained higher mean CIT scores on trials 4, 5, and 6 than boys under either of the other two treatments. The lowest scores for boys on the three trials were obtained under the neutral treatment. The highest mean CIT scores for girls, in order of decreasing magnitude, were obtained under the neutral treatment, encouraging verbal treatment, and discouraging verbal treatment. No other significant differences were found for main effects or interaction effects of anxiety, sex, and treatments.

- With group differences in CA and MA controlled, a significant difference in mean CIT gain score was found for anxiety groups (F=4.12, df=1 and 55, F.05=4.02). The LA group performed at a significantly higher level than the HA group.

- Two significant interactions were found for CIT gain scores when CA and MA were designated covariants. The sexes x treatments and the sexes x anxiety x treatments interactions were significant (F=3.69 and 3.24, df=2 and 55, F.05=3.17).

- The null hypothesis of no differences in variance among the experimental groups were supported.

- The F values obtained to test for differences in regression lines between the various treatment groups were significant for trials 1, 2, 3, 5, and 6. The assumption of parallel regression lines was supported for trial 4 and the CIT composite gain score.

Conclusions

1. Two of the five questions posed by this investigation could not be answered due to significant group differences in CA and MA that could not be statistically controlled. The failure to control for significant group differences also limited the results available to answer a third question posed by the study.

2. The results of the investigation suggest that in both a paired associates task involving rote learning of stimulus-response associations and motor dexterity and an abstraction task involving the identification of a similarity among sets of words, the performance of mentally retarded boys and girls may be effected differentially by verbal statements involving performance expectations.

3. Some evidence was found to suggest that performance on the Digit Substitution Task and the Concept Identification Task was influenced by the manifest anxiety level of the subjects, the particular combination of anxiety level and sex of the subject, and the particular combination of anxiety level, sex, and verbal statements of performance expectations. However, the relationships between and among these variables were not always consistent with empirical evidence or theory. This conclusion was qualified by noting that it was based on only the few isolated group comparisons in which the assumptions underlying the statistical procedures employed were supported.

4. Evidence indicated no differences in mean performance on the three experimental tasks related solely to the sex of the subject or solely to the treatment conditions.

5. Evidence was found to support the usefulness of the three learning tasks as experimental tasks suitable to the study of changes in performance with practice employing mentally retarded subjects.

6. The results suggested that a gain score calculated from raw scores may be a more sensitive index of change in performance with practice than raw scores plotted over a series of learning trials.

7. The results of the study did not support broad generalizations. Speculations were made based on the integration of the results with research and theory. A number of suggestions for future investigations were presented.

PROGRAMING THE DEVELOPMENT OF LANGUAGE SKILLS

Ruth Ann Davy O'Keefe

Two years ago at the CEC convention in Philadelphia, it was my privilege to discuss a research project designed to develop and test the Basal Progressive Choice Reading Program, a new programed system for teaching reading to the mentally retarded. In 1963, I could only describe the program and the research design, because no results from the study had as yet been obtained (Davy, 1963).

I should like to continue my discussion of Progressive Choice and present some of the available results. Although the study and the data analyses will not be completed until late summer, some of the preliminary data may be of interest now.

In 1950, Dr. Myron Woolman developed Progressive Choice as a general method for teaching. Progressive Choice (PC) has been adapted specifically for the teaching of reading, and has been investigated by Woolman (1962, 1963, 1964), Bloomer (1960, 1961) and Davy (1962, 1963). In the reading program, the child is required to learn only one response at a time. The initial required responses are the sounds for letters. The letters are selected so that any two taught in sequence have great dissimilarity in shape. As soon as the initial letter shapes, and their appropriate letter sounds, are learned, the child is required to read and print words using the learned letter combinations, or compounds. Thus, since the first three letters learned are M, O, and P, the first words learned are MOM, MOP, and POP.

The learning steps in the Basal Progressive Choice (BPC) program are structured to require simple responses at the beginning of the program, and then to build those single responses and learnings into more complex patterns. Thus, the child's first instruction in reading is a workbook page with only one straight line on it. Gradually lines are added to the one straight line, to form the capital letter, M. Then the visual M-shape assumes a sound overlay, the "mmm" sound. After "M" and "mmm", the child learns the "O" shape and the short "o" sound; he is then introduced to compounds such as OM, MO, and OMO. Only after he has mastered the compounds, is he introduced to his first word, MOM. But before he sees MOM as a printed word, he must first have demonstrated his understanding of the word MOM in its spoken (audial) form. Thus, there is a very distinct and structured pattern to learning in the Basal Progressive Choice Reading Program. For each new section of material to be learned, the child progress through five steps, or levels. At the Audial Meaning Level, he learns to speak and understand words he will eventually be reading; these words are predetermined by the letters that have already been learned and the new letter to be learned. At the Discrimination Level, he learns to recognize the new letter and to print it. At the Identification Level, he learns one appropriate sound for the letter.

Alternate sounds for the vowels and some of the consonants are taught later in the program, but initially the child is faced with a highly stable situation where each letter has only one shape, the upper case shape, and one sound. Thus the child's first experience is in a stable, phonetic, carefully controlled and quite correct world of reading. He will not have to unlearn anything; he will merely have to learn new relationships, one at a time, as he develops reading skill.

At the Compounding Level, the child uses his new letter sound in meaningless sound combinations with previously learned letters. The learning is culminated at the fifth step, the Visual Meaning Level, where the child uses his new letter sound in combination with previously learned letters, to read and print real and meaningful words, both in isolation and in context. The Progressive Choice program is intended to provide a total reading program--to give the child a broad foundation in reading.

Perhaps the major problem in evaluating the effectiveness of the PC program, and comparing it with other systems, is that upper case letters are used exclusively until 25 letters have been learned. This means that many children, after only one school year, have not learned lower case letters, and thus would be at a severe handicap when taking a standardized reading achievement test. In an attempt to solve this problem, a special reading achievement test was developed in which upper and lower case print are used for similar items. With this test a score for items printed only in upper case could be obtained, as well as a score for items printed in lower case.

During the first year of the study, only retarded children served as subjects. Although 700 children were in project classes during some or all of the school year, there were only 195 children on whom both pre and posttest scores were obtained. Of the 195 subjects, there were 76 children in classes for educable mentally retarded children who used Progressive Choice, and 69 children in EMR classes who served as controls by using conventional methods. There were 22 children in classes for the trainable mentally retarded who used PC, and 30 TMR children who served as controls by using conventional methods. The mean gain scores on the special test for the EMR and TMR children who used Progressive Choice were statistically significantly higher, beyond the .01 level of confidence, than the mean gain scores of the control EMR and TMR children.

During the 1963-64 school year, the project's second year, there were 405 experimental (PC) subjects and 315 control (nonPC) subjects. Since many of these children were new to the experiment and thus were beginning in the program, at the close of the school year, there were still very few Progressive Choice subjects who had advanced into lower case letters.

During the second year of the project, a sample of nonretarded first graders was included among the subjects. Mr. F.E. McGahan, Director of Special Services for the Galena Park, Texas, school district, had become acquainted with Progressive Choice through my 1963 CEC presentation. He asked if Galena Park children could participate in the project; we were happy to have them, and as a result of Galena Park's cooperation, nonretarded first graders as well as retarded children were included in the study. Typically, the nonretarded children were first graders of normal intelligence who were culturally deprived or in some way too immature to profit from instruction in a full size first grade classroom. Galena Park provides small classes for these children; in September, 1963, four of the ten small class first grades in Galena Park began using Basal Progressive Choice (BPC) reading materials.

Complete data on the 1963-64 study are not yet available, but reading test data have been analyzed on random samples of the subjects. On the special test using upper case as well as lower case letters, the gain scores of the TMRs, the EMRs and the first graders were statistically significantly greater than those of comparable control groups.

On the Metropolitan Achievement Test (MAT), measures were taken only for Progressive Choice children who had at least begun reading in lower case print. The length of time during which the small class first graders had used lower case ranged from one day to about four weeks; yet, for the three MAT reading subtests, the experimental subjects did slightly, but consistently, better than the control subjects from small classes, who had been using lower case print throughout the school year. These results might indicate that successful PC students are able to generalize readily to lower case.

I might add that a group of nonEnglish speaking children (in Corpus Christi) were among the subjects in 1963-64, but test data on that group have not been analyzed; reactions from the two BPC teachers were quite favorable, so I look forward to the completion of that part of the analysis.

During the course of the study, it became evident that reading achievement tests alone could not evaluate all the changes that were taking place in the experimental classrooms. Teachers began reporting attitudinal and behavioral shifts, for the better, in their students. Two scales were developed to try to learn more about these reported changes. The Social Effectiveness Evaluation Form was used by teachers to rate children in three categories of behavior. The Reading Methods Evaluation Form was used by teachers to rate reading methods on various criteria related to the effectiveness of specific reading methods in aiding in the general development of children, their skills and attitudes.

Some of the factors rated on the Reading Methods Evaluation Form may be of particular interest here, as they dealt with the teachers' opinions of specific reading methods as aids in the development of language, spelling, vocabulary and speech skills as well as general attitude toward learning. There were 20 items covering four categories (General Classroom Effects, Reading Attitude, Classroom Atmosphere, and Transfer Effects).

All items were rated on a nine point scale. Teachers who used Basal Progressive Choice rated that method as well as other specific methods with which they were familiar. Control teachers rated only the nonBPC methods with which they were familiar. Thus, there were three categories of ratings: Basal Progressive Choice teachers rating Basal Progressive Choice, Basal Progressive Choice teachers rating some other method(s), and Control teachers rating some method(s). Without exception, the mean ratings of the teachers who used Basal Progressive Choice were highest on all items in all categories, for Basal Progressive Choice, and lowest for their rating of a conventional method. The mean ratings for the control teacher fell between the two ratings made by the BPC teachers for each item.

One interpretation of these data is that successful Basal Progressive Choice teachers tended to depress their ratings of conventional methods, in light of their experience with the new method.

Significance levels have not yet been obtained for the mean differences between ratings; of importance here, however, is the fact that there were strong indications that measures should be taken beyond the specific area of reading achievement, per se, to investigate the effect of reading methods on general attitudes, behavior, and development of skills in other areas.

Up until the present time, Progressive Choice could be used only by school systems which participated in the experimental studies. For nearly three years I have been frequently asked, "When will the research materials become generally available?" Finally I have an answer. Science Research Associates plans to publish the Basal Progressive Choice reading program by June of this year. A developmental edition of the Accelerated Progressive Choice program, geared for adolescent and adult illiterates, had already been published by SRA (Woolman, 1964).

If further use of Progressive Choice continues to indicate that its principles and structure are efficient and effective for teaching reading to retarded and nonretarded children, there may be general implications for education. The development of spoken language may be seen as a vital foundation for reading, and as an adjunct to the reading process. Early success in learning can be seen as vital for molding positive attitudes toward learning and this must be assured to the greatest possible extent. Developing patterns of learning out of very simple relationships can be seen as producing more efficient and effective learning in any content area.

A good programed method should insure mastery of fundamental skills before the child is permitted to attempt more advanced work. The continual evaluations (feedback) in programed instruction make it easier for teacher and pupil to see areas of difficulty and to "nip them in the bud." Goals and objectives for the education must be specified in advance and subject content becomes more clear cut. Where pupils change from school to school, it should be easier for the new teacher to estimate more accurately the achievement level of her new pupil.

There may be many advantages in programing the teaching of language arts. More studies, like the investigation of Basal Progressive Choice, are needed to help in the constant challenge to develop and evaluate new approaches to teaching, to meet the demands of modern education.

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EFFECTS OF A TRAINING PROGRAM ON THE PRODUCTIVE THINKING OF EDUCABLE MENTAL RETARDATES

Sue T. Rouse

There are probably few educators who do not subscribe in principle to the existence of individual differences among children. One would surmise, however, that in spite of a relatively enlightened era in this psychoeducational field, when the approach is negative, there is still much stereotyped thinking in regard to what the educable mentally retarded (EMR) can accomplish. Or, perhaps it would be better to state that in reality, a great deal of emphasis is placed on what retardates cannot do. According to Masland, Sarason, and Gladwin (1958), such an attitude reduces teachers' expectations for these children, and therefore blocks effective school planning for them.

Also, in educational circles we are very fond of talking and writing about one of our primary goals as being to assist in developing all children to their ultimate potential. This is certainly a worthy goal, and one can hardly argue against its merit. If the recent flood of literature in regard to the creative process is to be considered seriously, then it would appear that creativity, or productive thinking, is one aspect of every child's potential (Anderson, 1959; Guilford, 1962; Parnes and Harding, 1962; Stein and Heinze, 1960; Taba, 1963).

Past research related to the development of productive thinking has been conducted primarily with college students (Guilford and Merrifield, 1960; Hansen, 1962; Maltzman, 1960; Meadow and Parnes, 1959; Nicholson, 1959; Parnes, 1963; Parnes and Meadow, 1959; True, 1957), and high level personnel in industry (Osborn, 1961; Samstad, 1962). Some studies have reported that children in the primary grades could be taught in such ways that they could use their creative thinking abilities in learning (Cartledge, 1962; Torrance, Schenetski, Palamutulu, and Luther, 1960; Torrance, 1961). Tisdall (1962) demonstrated in his efficacy study regarding school placement that young EMR subjects perform on tests currently being developed by Torrance (1962a) to measure creative thinking.

In view of the salutary results reported in the available literature, the present study was designed to determine the effects of a training program on the productive thinking of EMR children enrolled in special day classes.

Method

Subjects. The subjects were 78 Caucasian children enrolled in ten special classes for educable mental retardates in four local school systems in South Carolina. These children had CA's between 7-7 and 17-2 and IQ's recorded from individual psychological evaluations between 58 and 81. Their class placements ranged from primary units through high school settings. Forty-seven of these children from five classes in one school system served as E subjects; 31 children from five classes in the other three communities were the control subjects. Besides meeting necessary IQ and MA criteria, subjects also had to have understandable speech and sufficient motor coordination to manipulate a pencil or crayon to be included in the study. Table 1 contains basic IQ, CA, and MA information for each group. Differences on these variables were not different significantly at the .10 level for a two-tailed test. Therefore it was assumed that the experimental and control subjects were comparable on these three dimensions. Although no statistical treatment was attempted on anything as subjective as environmental background, inspection of the data on parental employment revealed that the two groups were remarkably similar in this respect, too. The majority of the parents were employed in textile mills or doing unskilled labor. Both groups had representatives who were receiving aid from Public Welfare.

Table 1

IQ, CA, and MA Characteristics of
Experimental and Control Groups

Measures		Experimental Group (N=47)	Control Group (N=31)	t	P* t
IQ	Mean	69.2	67.5	1.18	.10
	Range	58-78	56-81		
	SD	4.98	7.66		
CA	Mean (months)	147.3	144.0	0.47	.10
	Range	89-192	92-206		
	SD	25.73	35.28		
MA	Mean (months)	102.0	96.1	1.54	.10
	Range	63-137	60-167		
	SD	20.00	24.94		

*(two-tailed)

Instruments. Of the testing instruments available for measuring the effects of a training program on the productive thinking of EMR children, two tasks developed by Torrance (1962a) as parts of the Minnesota Tests of Creative Thinking were chosen. The selected subtests were Product Improvement (Verbal) and Circles (Nonverbal). For the Product Improvement Test, each subject was presented with a toy dog and asked to think of ways to make it more fun for boys and girls to play with. Responses to this test are examined for four subtest divisions as follows: fluency, a count of the number of relevant responses; flexibility, the number of answers that follow certain predetermined general principles that are thought to lend themselves to the improvement of almost any product; originality, based on a weighted scoring of from zero through two, depending upon the frequency of the occurrence in the standardizing population; and elaboration, the numerical count of the extent to which the response spelled out or elaborated the details that were over and above the communication of the basic idea (Torrance, 1963).

The Circles Task consisted of two pages containing 36 circles. The subjects were instructed to see how many objects or pictures they could make from the circles by adding lines to them, both inside and outside. This test is scored in much the same procedure as that used for the Product Improvement. A subtest score in fluency is derived first. This is the number of responses which have used the circles with repetitions and irrelevancies subtracted. A flexibility score is based on a count of the number of different categories into which the subjects' responses can be classified. Originality scores are weighted from zero through two, depending upon the frequency of responses when standardized. Elaboration subtest scores depend upon the extent to how much of a story the responses communicate (Torrance, 1963). In this study, the term productive thinking refers to a subject's performance on these two subtests which have been designed to assess fluency, flexibility, originality, and elaboration in both verbal and nonverbal areas.

The tests were administered individually before and after the experiment to each subject with all verbal responses recorded by the experimenter. In order to prevent any sharing of responses, precautions were taken so there would be no contact between tested and untested subjects while this portion of the study was being conducted.

Dr. E. Paul Torrance and his staff of the Bureau of Educational Research at the University of Minnesota scored all of the tests which had been coded so that only the experimenter knew which were E or C responses. When the pretests were returned after being scored, they were stored unopened in the rare book vault of the main library at the University of South Carolina. The results of both pre- and posttests were then unknown to the experimenter until the actual data processing began.

Experimental Treatment. (A complete copy of individual lesson plans are found in Appendix C, Rouse, 1963). The experimenter met with five teachers of the E groups after all subjects meeting the criteria for inclusion in the study had been pretested. The nature of the experiment was explained to them and they were provided with notebooks containing 30 lesson plans of approximately 30 minutes each, to be followed consecutively for a six week period. The teachers were instructed to keep a log of all responses, unusual happenings, and critical evaluations of each lesson as it was presented. Since the high school special class group was intact during the first period of the morning, this was the time designated for the presentation of the lessons in all five classes. The lessons were rigidly structured with even the teachers' remarks included--thus violating immediately the creative approach to teaching. Nobody in his right mind would advocate such a technique unless the circumstances were unusual. It was felt that this would be probably one of the best methods for overcoming the teacher variable which would be difficult if not impossible to control. To further insure uniform procedure, the teachers met with the experimenter once a week to clarify each lesson for the coming week.

As an experimental treatment, the lessons covered basically a wide range of activities. The subjects in each E special class engaged in brainstorming solutions to predetermined problems to encourage ideational fluency. No attempt was made to follow the brainstorming sessions through to the final step of evaluation of the ideas, since again, this could probably not be controlled. Lessons were included to clarify the development of principles used in making changes (i.e., size, shape, addition, subtraction, substitution, etc.); observation was included to make better use of the senses; improvisation with materials at hand to solve problems was tried; and the children were led into an elementary understanding of the process used in productive thinking (Meyers and Torrance, 1961a, 1961b; Osborn, 1961; Parnes, 1961; Torrance, 1961, 1962b; Wilson, 1958). The program also contained lessons which allowed for productive expression through original drawings, the writing of stories, and the composition of poems. In instances where the subject had not yet attained a facility for the handling of written expression effectively, they dictated their ideas to their teachers who transcribed them to written form.

Since most of the lessons were built around the technique of brainstorming solutions to given problems, the teachers were instructed to follow certain guidelines adapted from Wilson (1958) as a condensation of the Osborn (1961) approach. These simple rules, designed to overcome any fears that might reduce the flow of ideas of the children during the brainstorming sessions which were limited arbitrarily to 15 minutes each were:

1. Judgment is ruled out. Criticism of ideas must be withheld.
2. "Free-wheeling" is welcomed. The wilder the idea, the better; it is easier to tame down than to think up.
3. Quantity is wanted. The greater the number of ideas, the better.
4. Combination and improvement are sought. In addition to contributing ideas of their own, participants might suggest how ideas of others can be joined into still another idea.

Reading charts and cumulative graphs were prepared from the ideas generated during the brainstorming sessions. Although it was not the primary purpose of the study to improve reading skills, it was felt that the charts would provide another source of needed reading material for these special class children. By the same token, since the children in all E classes kept the cumulative graphs instead of the teachers performing this task, the retardates had intimate knowledge of at least one type of graphic presentation. Without actually being bothered with such esoteric terms as ordinate and abscissa, they could read their graphs and watch the cumulative line grow. Pictures, stories, and poems were shared, thus giving an added opportunity for oral expression.

Posttesting began at the end of the six week period. As in the pretesting, a pattern of alternating E and C classes for testing was followed.

After each experimental lesson, the E subjects continued with the activities pursued ordinarily in their daily class schedules. The control subjects received no treatment other than the pre- and posttesting, and the regularly followed program provided in each class.

Results and Discussion

Mean pretest, posttest, and gain scores with ranges and SDs for the two subtests are shown in Tables 2 and 3, respectively. These tables also contain the t test results (Edwards, 1954) on the mean gain scores.

The findings clearly demonstrate the superiority of the E group's mean gain scores in all areas covered by the two tests with the results being significant at either the .005 or .0005 levels for a one-tailed test. These data confirmed the experimenter's major hypothesis that a systematic program for the development of productive thinking would enhance significantly both verbal and nonverbal scores of EMR children as measured by the selected Minnesota Tests of Creative Thinking.

Examination of the tables will reveal that the pretest profiles of the E and C groups were similar. Apparently the disparity in mean gain scores between the two groups would seem to indicate an omission in the program for the C group that did not prepare these retardates incidentally for advancement in performance on the measures used in this study. In fact, the C subject either stood still or regressed on their posttest scores. Since no standardized alternate forms were available, identical tests were used for both pre- and posttesting. One if forced to conclude, for all practical purposes, that these children did not learn anything from the pretest. It is of interest to note that every control classroom displayed evidence of creative art work prepared by the children. Yet, if it were taken for granted that this alone would suffice for the purpose, it did not appear to be enough to assist these children in this particular testing situation.

Table 2

Product Improvement Task Means, Ranges, Standard Deviations, and t Tests on Gain Means of Pretest, Posttest, and Gain Scores for Experimental and Control Groups

Product Improvement Task Measures	Experimental Group (N=47)			Control Group (N=31)			Gain	P_t*
	Pretest	Posttest	Gain	Pretest	Posttest	Gain	t	
Fluency								
Mean	6.5	13.6	7.1	5.6	5.7	0.1	4.77	.0005
Range	0 to +30	0 to +36	-7 to +30	0 to +21	0 to +18	-8 to +6		
SD	6.76	9.59	7.78	5.12	4.64	2.74		
Flexibility								
Mean	2.8	5.8	3.0	2.8	2.7	-0.1	5.71	.0005
Range	0 to +7	0 to +13	-2 to +10	0 to +7	0 to +6	-3 to +2		
SD	1.99	3.28	2.94	1.99	1.61	1.28		
Originality								
Mean	6.9	13.0	6.1	7.4	7.2	-0.2	4.12	.0005
Range	0 to +40	0 to +36	-6 to +32	0 to +24	0 to +20	-14 to +9		
SD	8.26	10.06	7.40	6.68	5.50	4.96		
Elaboration								
Mean	1.6	4.0	2.4	2.2	1.9	-0.3	4.20	.005
Range	0 to +7	0 to +11	-4 to +9	0 to +7	0 to +7	-5 to +5		
SD	2.09	3.18	3.14	2.39	1.87	1.97		

*(one-tailed)

Table 3

Circles Task Means, Ranges, Standard Deviations, and t Tests on Gain Means of Pretest, Posttest, and Gain Scores for Experimental and Control Groups

Circles Task Measures	Experimental Group (N=47)			Control Group (N=31)			Gain	P
	Pretest	Posttest	Gain	Pretest	Posttest	Gain	t	t*
Fluency								
Mean	6.3	9.6	3.3	7.2	7.5	0.3	3.06	.005
Range	0 to +20	0 to +23	-3 to +15	0 to +23	0 to +18	-15 to +7		
SD	4.73	5.94	4.11	5.32	5.17	4.19		
Flexibility								
Mean	3.6	6.8	3.2	4.8	4.8	0.0	4.53	.0005
Range	0 to +11	0 to +18	-1 to +11	0 to +14	0 to +13	-12 to +6		
SD	2.54	4.34	3.02	3.26	3.29	3.16		
Originality								
Mean	4.2	7.5	3.3	6.2	5.8	-0.4	2.69	.005
Range	0 to +25	0 to +28	-9 to +16	0 to +34	0 to +16	-18 to +12		
SD	5.21	6.68	5.32	6.92	5.08	6.66		
Elaboration								
Mean	9.6	14.3	4.7	10.2	9.9	-0.3	3.37	.005
Range	0 to +56	0 to +52	-5 to +21	0 to +33	0 to +36	-22 to +18		
SD	10.47	12.81	5.79	9.57	10.35	7.17		

*(one-tailed)

It can be noted also in the tables that the differences between the two groups are greater substantially in the verbal areas. Possibly, these results could be attributed to the uniqueness of the brainstorming sessions as exercises in the "thinking" process. There seems to be no reason as to why educable mental retardates should not be permitted to participate in creative calisthenics as advocated by Parnes (1963). If the principle of learning by doing has any application to this process, then somewhere in their program of study, EMR pupils should be given the opportunity to do some practicing in productive thinking. A facility in this area is too important to the individual to be left to chance or incidental learning. Brainstorming sessions seem to provide a good vehicle for such experiences.

It is not possible to communicate the true nature of the excitement that can be felt when individuals experience success. The premonition that the attempt at brainstorming with retardates was going to work became apparent during the pilot study that was conducted prior to the experiment. Still, negative attitudes regarding mentally retarded children seem to be embedded deeply. The tentative reaction of the E teachers when the first lesson, a brainstorming session, was demonstrated for them in a special viewing room at the University of South Carolina gave evidence of this attitude. Even though the E pilot group had MA's that were too young for them to be included in the study, after the demonstration was completed the general consensus could be summarized in the remark made by one of the teachers, "My children will never be able to do it!" The other teachers were in agreement with this statement. What a pleasant surprise was in store for them! Contrary to expectations, their children could and did--much to the satisfaction of all concerned.

As with most experimental studies, in retrospect some portions might be done differently. Hindsight is usually better than foresight in many given situations. In this case, for experimental purposes, the introduction to the writing of poetry would be omitted. There was not time for its proper development, and as a result these particular lessons were markedly unsuccessful. As for most of the other lessons, they illustrated to the experimenter that the population's mentally retarded children were capable of doing some quite advanced and abstract thinking that might have been thought impossible to expect of them. With a substantial application of such a positive approach, who knows what the ramifications for programing might be?

Summary

Forty seven educable mentally retarded children from five special classes received 30 consecutive lessons designed to enhance productive thinking as measured by a verbal and nonverbal subtest in the Minnesota Tests of Creative Thinking. Thirty one retardates from five special classes were used as the control group, their status quo being maintained throughout the study. Analyses of the mean gain score data confirmed the major prediction that such training would improve test performance.

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PHYSICAL FITNESS OF MENTALLY RETARDED BOYS

Wayne L. Sengstock

Satisfactory physical development and motor performance are essential for all citizens, but they are especially important for the mentally retarded.

In defining our goals for education, we have always acknowledged the importance of economic, social, and emotional adjustment for our citizens. Anything that affects the attainment of these goals is of great importance to education and vocational rehabilitation. Physical development and motor performance are such factors. Insofar as possible, we must try to identify those children or groups of children who are deficient in these respects.

The Problem

The purpose of this investigation was to see if educable mentally retarded boys differed from intellectually normal boys of comparable chronological age and intellectually normal boys of comparable mental age in the performance of tests of physical fitness.

Related Research

Many of the attitudes and opinions concerning the relationship between intelligence and motor performance are based upon research containing contaminating factors which give us some valuable insights into the motor performance of the mentally retarded; however, none of them investigated all the components of physical fitness.

Studies attempting to compare the mentally retarded with normal children on gross motor skills were made by Francis and Rarick (1960), Howe (1959), and Peacock in the Thurstone (1959) study. These studies used several tests of gross motor performance which involved rate of speed, strength, and agility. In their study, Francis and Rarick used children with IQ's below 50 and above 80 which, therefore, included children above and below the range of those normally classified as educable mentally retarded. For comparison with normal children, they used available normative date rather than a control group.

The studies of Howe and Thurstone used control groups, with the former equating his groups on the basis of socioeconomic level.

All three of these studies compared the retarded with normal children on the basis of chronological age, and did not compare them with normal children of comparable mental age, height, or weight. An important feature of these studies is that they were in agreement. Each of them found that the mentally retarded do not perform as well as the intellectually normal of comparable chronological ages on tests involving various motor skills.

In many programs of special education for the educable mentally retarded, the children take physical education classes with normal children of the same age under the assumption that physical fitness of the retarded is similar to that of normal children of comparable chronological age. This study attempted to investigate this assumption.

Hypotheses

There were two general hypotheses proposed in this study.

1. The physical fitness of an educable mentally retarded group of boys is significantly different from the physical fitness of a group of intellectually normal boys of comparable chronological age.
2. The physical fitness of an educable mentally retarded group of boys is not significantly different from the physical fitness of a group of intellectually normal boys of comparable mental age.

Procedure

Subjects. Three groups of thirty boys each were selected for this study. These groups were designated as Educable Mentally Retarded (EMR), Old Normal (ON), and Young Normal (YN) groups. The EMR and the ON groups were equated on the variable of chronological age, and the EMR and YN groups were equated on the variable of mental age. The three groups of subjects used in this study were drawn from public school districts in Onondage County, New York in 1962. All subjects selected were boys who had no observable uncorrected physical or sensory impairment or record of such that would affect performance on any of the tests.

All subjects of the EMR group were enrolled in special classes for the mentally retarded at the time of testing. These classes were located in the same building as were the regular classes and were considered a part of the total school program.

The EMR boys met the additional criteria of:

1. Chronological age within the range of 120 months through 180 months at the time the battery of motor tests was administered.
2. Mental age within the range of 72 months through 144 months at the time the battery of motor tests was administered.
3. WISC full scale intelligence quotients within the range of 60 through 80 at the time the battery of motor tests was administered.

The ON group of subjects met the following criteria beyond those set for all groups for the purpose of equating chronological age of this group with the chronological age of the EMR group:

1. Chronological age within the range of 120 months through 180 months at the time the battery of motor tests was administered.
2. Mental age within the range of 108 months through 198 months at the time the battery of motor tests was administered.
3. WISC full scale intelligence test quotients within the range of 90-110 at the time the battery of motor tests was administered.

The group of YN subjects met the following criteria which permitted equating the mental age of this group with the mental age of the EMR group.

1. Chronological age within the range of 60 months through 160 months at the time the battery of motor performance tests was administered.
2. Mental age within the range of 72 months through 144 months at the time the battery of motor performance tests was administered.
3. WISC intelligence quotients within the range of 90 to 110 at the time the battery of motor performance tests was administered.

Description of the Groups. Differences between the EMR and ON group means on CA, EMR and YN group means on MA, and ON and YN group means on IQ were statistically treated with the two sample $\underline{t}$ test. The .05 level of significance was used in testing the null hypothesis. No significant $\underline{t}$ ratio was found in any of the comparisons. The results, therefore, support the hypotheses of no differences between the EMR and ON groups on CA, the EMR and YN group on MA, and the ON and YN group on IQ. Significant differences were found between the EMR and ON groups in height, and significance was approached between the two groups in weight. These differences were minimized by using the Neilson-Cozens Classification Index which uses percentile scores based on height, weight, and age of the child.

The families of each of the subjects were evaluated on the basis of socioeconomic class. This was done to see if the social classes between the groups varied enough to contaminate the data.

The socioeconomic class ratings were analyzed against the $\underline{x}^2$ distribution and there were no significant differences between groups.

Instrumentation. The American Association for Health, Physical Education and Recreation Youth Fitness Test Battery was selected as the instrument to measure physical fitness in this study.

The individual tests of the battery are: (a) Pullups; (b) Situps; (c) Shuttle run; (d) Standing broad jump; (e) 50 yard dash; (f) Softball throw for distance; (g) 600 yard run-walk.

Findings

Each of the tests was analyzed individually with the performances of the three groups being compared in two ways. First the raw scores were compared with a $\underline{t}$ test for matched pairs (1954). Because the scores on the Pullups test for the EMR and YN groups did not assume a normal distribution, a nonparametric test was substituted for the $\underline{t}$ test. Willcoxen's Test (1963) for two matched samples was employed to analyze the performances on the Pullups test. This was followed by a comparison of the percentile scores of the EMR and ON groups. The percentile scores were based on national norms and began at a CA of 10 years. Because many of the subjects in the YN group were below this CA, they were eliminated from this comparison. Table 1 summarizes the performance of the EMR and YN groups in terms of their raw scores, and Table 2 does the same for the EMR and ON groups.

Table 1

Means, Standard Deviations, and t Values
for
EMR's and YN's on the AAHPER Tests

Test	YN (N=30)		EMR (N=30)		
	$\overline{X}$	SD	$\overline{X}$	SD	t
Pullups (number)	1.60	2.44	1.73	1.90	(.35)[a]
Situps (number)	37.83	30.28	37.13	25.91	.16
Shuttle Run (seconds)	12.79	1.11	12.16	1.14	3.80 ***
Standing Broad Jump (inches)	49.80	7.51	57.23	10.02	6.04 ***
50 Yard Dash (seconds)	9.15	1.05	8.38	.92	4.53 ***
Softball Throw (feet)	70.33	23.21	99.13	28.91	6.61 ***
600 Yard Run-Walk (minutes and seconds)	2-56	0-24.56	2-41	0-25.48	4.82 ***

*** p = .001

[a] Scores on the Pullups test formed a J curve, therefore this is not a t value but a value of x for Willcoxen's Test for two matched samples. This value was significant at the .05 level of significance.

The percentile scores of the EMR and ON groups are based upon the Neilson-Cozens Classification Index which equates individuals by weighting their scores according to age, height, and weight. In this way, the EMR and ON groups are equalized on these variables, thereby negating any possible advantages of height and weight of the ON group. Table 3 summarizes the performances of the EMR and ON groups in terms of their percentile scores.

Statistical analysis of the raw scores supported hypothesis one in all of the tests. The findings of the present study supported hypothesis two in two of the seven tests. The performances of the EMR group were significantly superior to the performance of the YN group in all but the Pullups and Situps tests.

Conclusion

The findings of this study indicate the following:

1. The Old Normal group of boys was significantly superior to the Educable Mentally Retarded group of boys on all of the seven tests of physical fitness. This superiority was maintained upon examination of the percentile score which equated individuals on the basis of height and weight.

2. The Educable Mentally Retarded group was significantly superior to the Young Normal group of boys on five of the tests.
3. Overall, the Educable Mentally group performance was almost midway between the mean performances of the Old Normal and Young Normal groups of boys.

Therefore, the implication is that the policy of placing Educable Mentally Retarded boys with their CA peers for physical education is open to serious question if the assumption underlying the program is that the two groups' motor performance should be comparable.

Table 2

Means, Standard Deviations, and t Values for EMR's and ON's on the AAHPER Tests

Test	EMR (N=30)		ON (N=30)		
	$\bar{X}$	SD	$\bar{X}$	SD	t
Pullups (number)	1.73	1.90	2.87	2.63	(3.08)[a]
Situps (number)	37.13	25.91	58.53	27.50	6.28***
Shuttle Run (seconds)	12.16	1.14	11.11	1.95	4.38***
Standing Broad Jump (inches)	57.23	10.02	67.27	10.81	4.06***
50 Yard Dash (seconds)	8.38	.92	7.87	1.47	3.64***
Softball Throw (feet)	99.13	28.91	130.07	25.90	5.98***
600 Yard Run-Walk (minutes and seconds)	2-41	0-25.48	2-22	0-19.29	4.97***

*** $p = .001$

[a] Scores on the Pullups test formed a J curve, therefore this is not a t value but a value of x for Willcoxen's Test for two matched samples. This value was significant at the .05 level of significance.

There are many questions raised by the present study. If the mentally retarded are, generally, physically unfit, what instrumental arrangement for physical education training would best meet the needs of the retarded? Would it be more beneficial to segregate the mentally retarded, or to integrate them with normal children for physical education? If integration is suggested, with which age group should they attend classes? Should they attend classes with normal children of their own age or with younger normal children? If programs for the mentally retarded are to reach maximum potential in the area of physical performance, the above questions must someday be answered.

Summary

The purpose of this investigation was to see if mentally retarded boys differed from intellectually normal boys in physical fitness. Thirty educable mentally retarded boys were matched with thirty normal boys of comparable chronological age and another group of thirty boys of comparable mental age. All groups took the American Association for Health, Physical Education, and Recreation Youth Fitness Test Battery. In analyzing the group test score it was found that the mean performance of the mentally retarded boys was almost midway between the mean performance of the two normal groups.

Table 3

Percentile Score Group Means on the AAHPER Test Battery

Test	EMR	ON	Difference
Pullups	48.90	58.33	9.43
Situps	48.60	70.31	21.71
Shuttle Run	33.43	56.63	23.20
Standing Broad Jump	38.80	60.23	21.43
50 Yard Dash	40.80	50.40	9.60
Softball Throw	33.13	62.90	29.77
600 Yard Run Walk	50.13	67.67	17.54

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OFF CAMPUS WORK - EXPERIENCE FOR THE EDUCABLE MENTALLY RETARDED

George E. Thanos

In a society such as ours, every student has some contribution to make. These young people are entrusted to us, their teachers, and it is our obligation to be constantly alert to each person's capabilities and seek to identify and develop them.

Those who have the privilege of working with the handicapped have an even greater challenge. The handicap may or may not be readily identifiable, but in addition to this, the teacher must help the student in his adjustment to utilize his abilities in relation to his problem. It is not enough to offer sympathy, understanding, and special classes. We must offer concrete experiences in the everyday adult world into which each must fit. People with handicaps have specific contributions they can make to the culture in which they live. In the area of work performance, there are particular jobs which the retarded may accomplish in a better fashion than average or bright individuals.

A work-experience program for the educable mentally retarded as a part of the curriculum will differ in every school district in which it is found, because it is based on the employment resources of a community and the ability of the students to perform successfully within those job areas.

Although there are many programs in operation throughout the United States, the need for this approach to the education of the mentally retarded is still great.

The majority of those working in the field of special education agree that this is the desirable avenue to follow with these students, but there is much diversity of opinion concerning how to initiate, administer, coordinate, and operate this program within the public school curriculum.

The Buena High School (Ventura Union High School District) work experience program for special education students is an important part of the curriculum which provides employment experience on and off campus without the utilization of the public agencies whose services are available to the retarded.

The on campus program involves jobs in which regular students also participate. These include gym, teacher, and library assistants, custodial helpers, and cafeteria workers. Stress is laid on service to the school and preparation for off campus employment. The training and guidance received in these situations serve as definite motivating factors for securing paid off campus positions. The certificated and classified personnel under whom the students work understand their characteristics and problems and do an outstanding job of stressing the educational values by establishing definite requirements for each position and seeing that they are fulfilled without undue pressure.

Off campus employment is classified as general work experience and students are paid and receive school credit in accordance with state law. Those enrolled in this program follow a curriculum which meets the state's requirements for graduation. They attend classes for a minimum of four hours and are on work assignments in the community from two to four hours.

Those not working off campus are either engaged in on campus work or are enrolled in tegular classes such as physical education, home economics, arts and crafts, industrial arts (wood, mental, auto, and electric shop), modern science, typing, photography, art, and driver education and training.

Any position in which a student is placed has to meet the requirements of a definite routine, an established program of supervision, and has to be on a level commensurate with the student's interests, abilities, and capacities. Although students receive payment for their work, the emphasis is placed on the educational value of the work experience rather than on the pay.

All jobs off campus are the responsibility of one special education teacher. He locates them, makes the contacts, arranges the interviews, and takes care of all necessary details prior to job placement. After placement, close supervision on the job, classroom activities related to problems encountered, and individual counseling by the teacher is allowed a minimum of one half day to perform these duties necessary for the operation of the program and a travle allowance based on mileage is given.

To place a student properly, a week's orientation is desirable after the contact has been made and the employer had indicated a willingness to hire a student. Obtaining a work permit, Social Security card application, arranging transportation to and from the job, job observation, and a teacher-parent-student conference are included in the orientation.

Some of the many problems a program faces are parent orientation, complying with state and federal laws, coordination of school and work schedules, and finding jobs which fulfill the objectives of the work program. The usual school problems of special education students at the secondary level (interest, attendance, and tardiness) are greatly reduced because of their desire to particpate in the off campus program.

Evaluations are made four times a year. The first and third are oral between the employer and the teacher with the student included in the final phase. The second and fourth are written on forms used for this purpose which become a part of each student's permanent record.

The classroom program is not separate from the work experience phase, but is an integral part of the total structure. The determining factors of a retarded student's ability to obtain and hold a job can begin with the classroom situation. These factors include punctuality, honesty, good grooming, courtesy, starting and finishing a job, getting along with others, and the establishment of good work habits. There is no attempt made to teach a specific job, but to teach the skills and procedures that would be needed for any job within the student's capabilities.

As a result of our own experiences and observations, we would offer the following recommendations for initiating a special education work experience program:

- All students 16 years of age and over should be given an opportunity for off campus employment, preceded, if possible, by on campus work experience.
- A student should be placed only when the special education teacher believes he is ready for the job. A program cannot function effectively if there are too many mistakes in placement.
- Each student should be placed on a job which he has every possibility for success, consistent with interest, ability, social maturity, emotional stability, and physical capacity.
- The student should come first, the program second.
- The person who places and supervises the students on or off campus should have daily contact with them and belief in this type of progam.
- The supervising teacher should analyze the job areas in the community that could be performed satisfactorily by special education students. These areas will vary from community to community and from year to year.
- The supervising teacher should assume the major part of the responsibility for each student working. He should not place unnecessary burdens on the employer.
- The supervising teacher should be allowed sufficient time to coordinate the school and work program.

- Work study programs should be scheduled to allow students to take part in extra-curricular activities if they so desire.
- Secondary program should be departmentalized rather than self-contained.
- The curriculum should be organized so that the students will meet the minimum requirements for graduation. Without a high school diploma, they are automatically eliminated from competing for many jobs they can perform in a satisfactory manner.
- The curriculum should be based on such adult requisites that include preparation for the world of work, successful family living, and leisure time activities.
- The classroom program should not be separate from the work experience phase, but be an integral part of the total structure.
- The program should involve as many school personnel as possible. It should be the program, not my or our program.
- A resource committee, comprised of community leaders who have the power to make decisions, might be desirable.
- There should be selective placement in choosing under whom and where students would work. In many cases there would be a specific job solicitation for a specific individual.
- Emphasis should not be on number of placements, but on placements with those employers who clearly understand and adher to the objectives of the program.
- The importance of evaluations should be stressed to employers, students, and parents.
- The Education Code and State and National Laws should be complied with at all times. If there is a genuine need or shortcoming in some area, interested persons and groups should help sponsor and support legislation to correct this.
- Liability responsibility should be clearly understood by all--school, employer, student, and parent.
- Caution should be taken to see that there is no exploitation of student labor.
- An agreeable work hour arrangement should be established; a minimum of two hours, a maximum of our hours per day on days required to be in school should be scrupulously maintained.
- A variety of experiences is not necessary in all cases. Good work habits is the key. Employers say if a job is lost through automation, those persons with desirable work habits can be retrained. Such an implication has definite significance for the curriculum.
- The work experience should be classified as general and the students should be paid the minimum wage in most cases. If they are employed during school hours, credit should also be given. A policy should be established as to the number of school credits to be applied toward graduation.
- The administration and other school personnel should be kept informed as to the progress of the program.

We do not believe that our responsibility to these students ends when they leave school, either through graduation or termination. There are many problems and adjustments to be made and the teachers can often help because of the relationships already established. The school doors are never closed to them and the students know that the teachers are available if a need should arise.

To be successful, a program must be constantly changing to meet the needs of the students and the community. It must have the support and understanding of the administration, faculty, classified personnel, and community. When this occurs, young men and women who were once destined to a life of unproductivity and dependence on the state become useful, independent, contributing citizens. In our school district, we have had the satisfaction of seeing graduates from our program become contributing members in our community in many areas of industry.

From a monetary standpoint which seems to be of such importance these days, money has been saved. From the human worth standpoint which is of inestimable importance, dignity and respect have been achieved.

AUDITORY IMPAIRMENT

THE NEED FOR NEW VOCATIONAL-TECHNICAL PROGRAMS FOR THE DEAF

E. B. Boatner

While educators of the deaf have strong areas of disagreement they are in almost unanimous agreement as to the inadequacy of present day provisions for the vocational-technical education of the deaf. This unsatisfactory situation is reflected in an unduly high rate of unemployment as well as in the fact that the majority of deaf workers are employed in unskilled or semi-skilled occupations at comparatively low pay. It is not unlikely that those leaving our schools for the deaf today are at a greater disadvantage in making a satisfactory place for themselves in the modern world of work than was the case a hundred or more years ago.

These facts have been revealed by recent studies such as those made in the New England and Southwestern states, and strong recommendations have been made within the past several months by the Conference of Executives of American Schools for the Deaf and the Knoxville Workshop, that immediate steps be taken to bring about an effective program of vocational-technical education to meet the needs of all the deaf. The precise nature of such steps and what arrangements for vocational-technical education would be most advantageous for the deaf requires careful consideration of all possible approaches to the problem.

It is the purpose of this paper to discuss the measures that have been proposed in the light of the special and highly complex educational problems imposed by deafness. Unfortunately, the nature of these problems is all too frequently not fully appreciated.

The Present Educational Program

There are 99 schools for the deaf in the continental United States not including Gallaudet College. These include 67 public residential schools, 15 day schools and 17 denominational and private schools. The total enrollment in these schools is 19,801 of which 16,156 or 81.6 percent is in the public residential schools. (Statistics are given in the American Annals of the Deaf, the official organ of the Conference of Executives of American Schools for the Deaf, January, 1964.)

The enrollment in these schools ranges from 23 to 558 with an average enrollment of 200. Twenty three of these schools have less than 100 students. It is obvious from these statistics that the majority of the schools cannot possibly provide vocational-technical education for their students. In fact, even the largest schools have a relatively small number of students who are qualified by academic preparation and maturity to undertake vocational-technical education. They are further handicapped by the necessity of carrying on concurrently a full academic program for the majority of their students and the inability to provide for a diversity of courses with the necessary equipment, qualified instructional staff, and all the ancillary services necessary for good vocational-technical education. While an impressive number of courses is listed in the Annals as being offered by schools for the deaf, most of them are no more than prevocational at best.

These and other factors clearly demonstrate that programs must be provided beyond those which the schools for the deaf are able to offer if we are to meet the vital needs of the deaf for vocational-technical education.

The Scope of the Problem

One of the first considerations in the establishment of any program is the number for which provision must be made.

In October a survey of the 99 schools was made by the Vocational Committee of the Conference of Executives of American Schools for the Deaf to determine the number and average academic attainments of students 16 years of age or over leaving the schools during the year ending in June, 1964. Replies were received from 88 schools representing 93 percent of the enrollment of all schools for the deaf in the United States. These replies reported 1277 school-leavers 16 years of age or over. If we increase this proportionately to allow for the schools which did not reply we arrive at a total of 1374 leaving-students from all the 99 schools.

Statistics on the 88 schools replying show that there were 1145 leavers from the residential schools. Of these, 449 received academic diplomas with a Stanford test average of 8.2. Vocational certificates were given to 338 with a Stanford average of 5.3. Attendance certificates were given to 150 and 208 left without receiving any certificates.

From the day schools and denominational and private schools there was a total of 137 leavers. Of these, 81 received academic diplomas with a Stanford test average of 7.3. Vocational certificates were given to 14 with an average of 5.0 and 37 who received attendance certificates or no certificates left.

Of the 1277 leavers reported by the 88 schools only 70 were reported as having attained a tenth grade Stanford average or better.

It will be noted that no figures are given on the 297 day classes for the deaf with an enrollment of 8,755. It is virtually impossible to obtain accurate figures on these classes. However, they rarely retain pupils to the age of 16.

Many of these pupils enter schools for the deaf while others enter schools for hearing students. It is estimated that about 300 pupils in the latter group make their way through public school annually. Therefore the total number of all deaf students which we could contemplate as coming out of all schools annually would be approximately 1700.

The comparatively small number of deaf students leaving the schools each year and their low average academic attainments are basic factors which must be considered in the formulation of any program of vocational-technical education which will meet their needs.

Integration in Schools for the Hearing

Integration of deaf students into regular vocational-technical schools for hearing students or into junior colleges or universities has been proposed by some as the most effective and inexpensive way to provide the deaf with vocational-technical education.

The argument for such arrangements is that the deaf could be educated in already established facilities and benefit from the association with hearing students. It is assumed that with the assistance of some interpretation and special advisory services the deaf could hold their own with the hearing students.

While this may sound plausible, it completely fails to take into account the very special and complex educational problems of the deaf. These relate to language deficiencies, the barrier of communication, and many variable psychological factors. Even an individual interpreter for each deaf student would not offer a satisfactory solution.

Integration of the deaf and hearing is by no means a new idea. It was tried on a major scale by Prussia as early as 1828. Deaf pupils were brought from a wide area, boarded in homes, and sent to a regular school for hearing pupils. Here one or more trained teachers were expected to furnish enough assistance to the deaf to enable them to carry on their studies successfully. The arrangement was not successful and was dropped after several years of trial. Similar arrangements have been tried from time to time but none has achieved any great success. This is attested to by the fact that practically all deaf children are educated in a special school or class, and there is a special college for the deaf. It is no less likely that special vocational-technical centers are also essential for them.

Regular Vocational-Technical Schools

The New England Survey of the Occupational Status of the Young Deaf Adult attempted to determine to what degree the deaf of this region had received vocational-technical education in the regular schools of this type. A questionnaire was sent to each of the 92 vocational-technical schools of New England. Replies were received from 70. These showed that only 20 deaf students had attended these centers during a seven year period and only eight had received any kind of certificate. Most had dropped out or taken non-credit evening courses. This strongly indicates that as presently constituted the regular vocational schools are of little help to the deaf.

The Junior College

In some areas of the country there are junior colleges which offer a wide range of courses including vocational courses. These are considered by some to have much to offer the deaf.

An interesting experiment has been carried on by one of these, the Riverside Junior College, in connection with the California School for the Deaf at Riverside. The program was begun in 1961. Special assistance was provided in the form of hearing student tutors, instructors' notes, and interpretation in the classroom in the language of signs by trained instructors of the deaf. A house provided by the college was used as a center for the deaf, and summer courses in English and Mathematics were provided to help meet the needs of the students.

The results as of the spring of 1964 were as follows: Of the 41 who had entered since 1961, three had completed requirements for the associate of arts degree; one the vocational nursing course; one the cosmetology course; 23 had dropped out for a variety of reasons and 13 were still enrolled.

Significantly, in Education of the Deaf, a report to the Secretary of HEW by his Advisory Committee on the Education of the Deaf in March, 1965, this statement is found: The more verbally oriented courses (English and History) required a retreat from the attempted integration with hearing students to separate classes for the deaf.

Integration of deaf students into a technical high school in one large city is far from successful. As of the present year, there are ten deaf students in this school with an enrollment of six thousand hearing students. The director states that the deaf students do not take the regular courses, and that much of their time is spent in observation. This is the only high school in the city that attempts to offer secondary technical education to the deaf.

Multi-Handicap Centers

While multi-handicap centers are believed by some to hold great possibilities there is no such center in the country that can point to any significant achievements in vocational-technical education for the deaf. In fact, very few of the deaf have attended such centers.

The great basic handicaps imposed by deafness, language and communication come just as strongly into effect with groups of other handicapped persons as with hearing persons in regular school situations and the psychological factors would also be adverse. Undoubtedly many deaf persons would not be willing to attend such a center. Many courses suitable for the deaf would not be suitable for those having other handicaps and this would complicate the problems of facilities, equipment and instruction. If a special department was necessary for the deaf it would be more advantageous to have it completely separate.

Gallaudet College

It has been proposed that Gallaudet College be expanded to include vocational-technical courses for the deaf but the administration of the college has recently stated its decision to adhere strictly to a liberal arts program. The recent report of the Advisory Committee on Education of the Deaf to the Secretary of Health, Education and Welfare states, "Vocational and higher technical educational fields for the deaf should be left for others (than Gallaudet) to develop."

The Special Vocational-Technical Center

The special vocational-technical center would have many advantages. Its aim would be to provide for students leaving schools for the deaf between the ages of 16 and 22 with additional provisions for retraining the adult deaf. It could attract a sufficient number of students to permit satisfactory diversification, and the offering of a variety of courses carefully selected as offering the most opportunity to the deaf. Such courses could range from one to four years in extent. The staff could give their full attention to the deaf and be required to be able to effectively communicate with them and to have a perceptive understanding of the educational and psychological handicaps imposed by deafness.

A program of orientation could be provided to enable new faculty members to acquire this background, at full pay. All ancillary services could be provided including audiological, psychological, guidance and placement.

The center should be located in an area in which there is varied and extensive business and industrial resources and a close liaison should be maintained with business and industry. This should provide on the job training as part of the courses. There are wide opportunities for staff recruitment both part time and full time from business and industrial concerns.

Such a center would have to be established and maintained by federal funds, and, since the students would come from wide areas, dormitory facilities should be provided. At the present the government is spending a great deal of money in maintaining Gallaudet College and has recently spent many millions for its plant facilities. The college is the only special educational resource for students leaving schools for the deaf and it offers only a liberal arts program. While this is well and good; there is great need for a facility which will offer the deaf the best and most extensive vocational-technical education possible.

In commenting on this the report of the Advisory Committee on Education of the Deaf to the Secretary of Health, Education and Welfare states: "Undoubtedly if vocational-technical training centers for the deaf became available to them at the post-secondary level, a significant number of students who would otherwise apply to Gallaudet will choose to study in them." Certainly such deaf students deserve a choice other than liberal arts.

A great benefit which would accrue is that schools for the deaf would be freed from having to try to maintain vocational training concurrently with their academic programs and would be able to devote more time to academic preparation which is so essential to success in a vocational-technical program.

A National Center and/or Regional Centers

The question is, should there be regional centers, or one national center, or both? The statistics indicate that there might well be regional centers - one for the Northeastern states, one for the Midwest and one in the far West and one to serve South-Southwestern states. On the other hand it might be well to establish one national center which would have enough students to permit sufficiently wide diversification.

While the academic levels of the deaf would indicate that any center or centers should begin at a secondary vocational-technical level, a national center could be expected in time to advance its courses to at least the junior college level of technical education. Also, the regional centers could be established later when the needs and demands are more clearly demonstrated.

These questions require further study as well as the problems of location, curriculum, administration, and staff. The house Subcommittee on Appropriations for Health, Education and Labor under the chairmanship of the Honorable John Fogarty has been requested to make funds available in its current budget to develop all necessary information to lead to the immediate establishment of at least one vocational-technical center for the deaf.

The immediate need cannot be over emphasized. The deaf have been waiting all too long for the opportunity to secure effective vocational-technical education, which is so vital to their well being. None of the present programs hold any real promise of providing such education. Further time spent in evaluating present programs such as the junior colleges and the multi-handicapped centers would be misspent since they have been clearly shown to be inadequate. The only program which does hold great promise of concrete benefit is the vocational-technical center especially for the deaf. We should all direct our effort toward bringing such a center into operation at the earliest possible moment.

THE SIGNIFICANCE OF LOW FREQUENCIES IN HEARING AIDS

Robert J. Briskey

We have been conducting an investigation of the use of low frequencies in a hearing aid designed expressly for the rehabilitation of the deaf. The approach that we have used is to examine what the hearing aid will do to influence the voice and articulation of an individual. The premise on which this discussion is based is that in the training of the deaf, it is desirable to develop a good voice, good rhythm, improved articulation, and have these factors result in the development of better language. These are the same goals as in auditory training.

The history of auditory training can be traced back over 200 years from the early scientific investigation of Ernaud in 1761 to the most recent report by Perdoncini in Time magazine this year. The history has included many approaches to the utilization of low frequencies. Eric Wedenber's ad concham technique utilized the residual hearing in the low frequencies by the close proximity of the ear. Huizing reported success in the training of children by shifting the center of intelligibility in the speech frequencies down into the lows. Guberina in his Verbotonal method of assessing hearing and auditory training used the low frequencies.

In 1963, Dan Ling reported in Teacher of the Deaf an improvement in the quality of voice and quantity of language of the children under his training utilizing low frequency amplification. A subsequent article in the December 1964 Volta Review by Ling entitled

"Implications of Hearing Aid Amplification Below 300 Cycles Per Second" describes the significance of low frequency amplification on the quality of deaf speech.

In December 1963, we undertook the design of a new hearing aid including the low frequencies. The development of this aid required the design of a new imput transducer inasmuch as all conventional input transducers were limited in the low frequencies. A second factor was that the aid required an additional stage of amplification in order to increase the gain in the low frequencies. In March of 1964, we had a satisfactory experimental low frequency hearing aid. This experimental aid was subjected to experimental evaluation and examination by Ling at the Montreal School for the Deaf and concurrently was used in the establishment of a research program through our own laboratories in Chicago.

Our own local investigation of the importance of the low frequencies was centered on an adult population. In selecting adults with profound hearing losses from our own laboratory files of the Product Evaluation Suite, we were able to determine the differences obtained using a hearing aid with a standard response and the low frequency aid using conventional discrimination tests. Our preliminary testing indicated that the individuals selected from the library of subjects were able to obtain better discrimination scores with the experimental aid over a standard hearing aid.

Inasmuch as the early work utilizing low frequencies by Ling included a child population, a group of children were selected in the Chicago area on which to test the performance of this instrument. Because of the inability to obtain conventional discrimination tests due to the limitation of language, the difference in performance of the children to this instrument was not as easily defined. However, it was noted in the evaluation of the experimental over a standard hearing aid with children that several responses could be observed. These responses included a better speech awareness threshold as well as a noise awareness threshold. It was also noted that it required less gain and less maximum power output to elicit better threshold responses with this instrument over a standard aid. An additional observation was that the child was able to imitate vowels more readily with the experimental aid over the standard instrument. This ability to differentiate vowels also produced subjective responses of the children to their own voices. The re-establishment of the acoustic loop produced in many instances an effect similar to the delayed side tone in which the child was suddenly aware of the presence of his own voice as well as that of the examiner. This ability to elicit self-stimulation of vocalization appeared to be facilitated when the child was using the experimental instrument.

The laboratory work indicated that the experimental aid produced selected favorable results, and the teacher of the deaf supervising the children wearing these experimental aids in the Chicago area reported improvements among the children in the monitoring of their own voices. Parents also gave subjective reports as to the effectiveness of the experimental aids. All of the reports were subjective, however, there was a need for an objective verification to substantiate the merits of this instrument. The objective method finally agreed upon involved the use of the Vibralyzer. The Vibralyzer is similar to the Sonagraph in that it analyzes an acoustic signature as to frequency spectrum over a predetermined time interval.

Considering that we were interested in the information in the low frequencies, we decided to use two types of visual displays available in the Vibralyzer in order to establish any objective improvement which might occur as a result of an individual having the acoustic loop re-established through low frequency amplification. The frequency spectrum with which we worked was from 44-2200 and from 15-1500 over the time periods of 2.4 and 6.6 seconds.

In the initial analysis of the Sonagrams of several deaf children and the analysis of simulated deaf speech, several objective changes were noted. Our experience demonstrated that in the utilization of low frequencies we could expect the following to occur:

1. We would expect a change in the pitch or fundamental frequency of the voice, thereby enhancing the quality by increasing the number of harmonics present.
2. We would expect a greater definition of the characteristics displayed in the transition from vowels to succeeding consonants or a more normal continuous variation of frequencies through various segments of vowel and consonant production.
3. We would expect a redistribution of acoustic energy emphasizing the positions of the formants more normally identified with certain vowels.
4. We would expect to see rhythm or melody patterns more closely resembling that of normal speech.

We assumed that one or several of these objectives could be obtained. It was our opinion that if you could improve one or more of these characteristics, you would improve the subjective quality of speech. Many authorities have reported that if melody is lacking in deaf speech, it becomes more difficult to grasp the content of speech.

In April of 1964, a 20 year old girl was tested as a subject for our library, and her loss was sufficiently great so as to warrant testing the experimental instrument. (See Figure 1)

On her first visit she read a sample of poetry which was recorded. This initial sample of her speech was used in the early analysis of the Sonagram.

The Sonagrams in Figure 1 are visual displays showing the change which occurred in this young adult's speech over a period of nine months. This display is a visual representation of the frequencies from 15 to 1500 in the vertical plane with the time segment of 6.6 seconds represented in the horizontal plane.

In Ling's most recent article, he refers to the weakening of the low frequency sounds with a strengthening of the second and third harmonic. He reports that with this change in the relationship of the amplified sounds, this may result in a pitch reversal. With the experimental aid, the distribution of energy in the low frequencies is present and the individual is able to experience some of the necessary low frequencies for vowel identification. In addition, Ling reports that the presence of low frequencies also gives the individual the necessary auditory clues for the establishment of rhythm.

It is noted in Figure 1 that there has been a change in the visual display. The lower Sonagram is an example of the change in the density of the voicing frequencies and a change in the distribution of energy as observed in the harmonics.

Figure 2 is a Sonagram with an example representative of the change in the pattern which might be expected after the use of low frequency amplification.

Figure 2 represents the words "May I" which have been reproduced as part of the complete sentence "May I please have new shoes." The top Sonagram is a pretest sample compared to a sample of the two words after 90 days of use with the experimental aid. Two of the expected characteristics are noted in this Sonagram. The fundamental frequency of the voice on the pretest sample is 310 cps while on the sample reproduced after the use of low frequency amplification for 90 days, the fundamental frequency is 254 cps. The second characteristic noted on the Sonagram is the change in the visual display of the transitions from a consonant to vowel or diphthong. In the examination of the pretest Sonagram, it shows that the resonance bars are relatively flat. On the Sonagrams after the use of low frequency amplification for 90 days, the bars show some patterning with the transition and characteristic changes of the combinations of vowel and diphthongs noted. (See Figure 3)

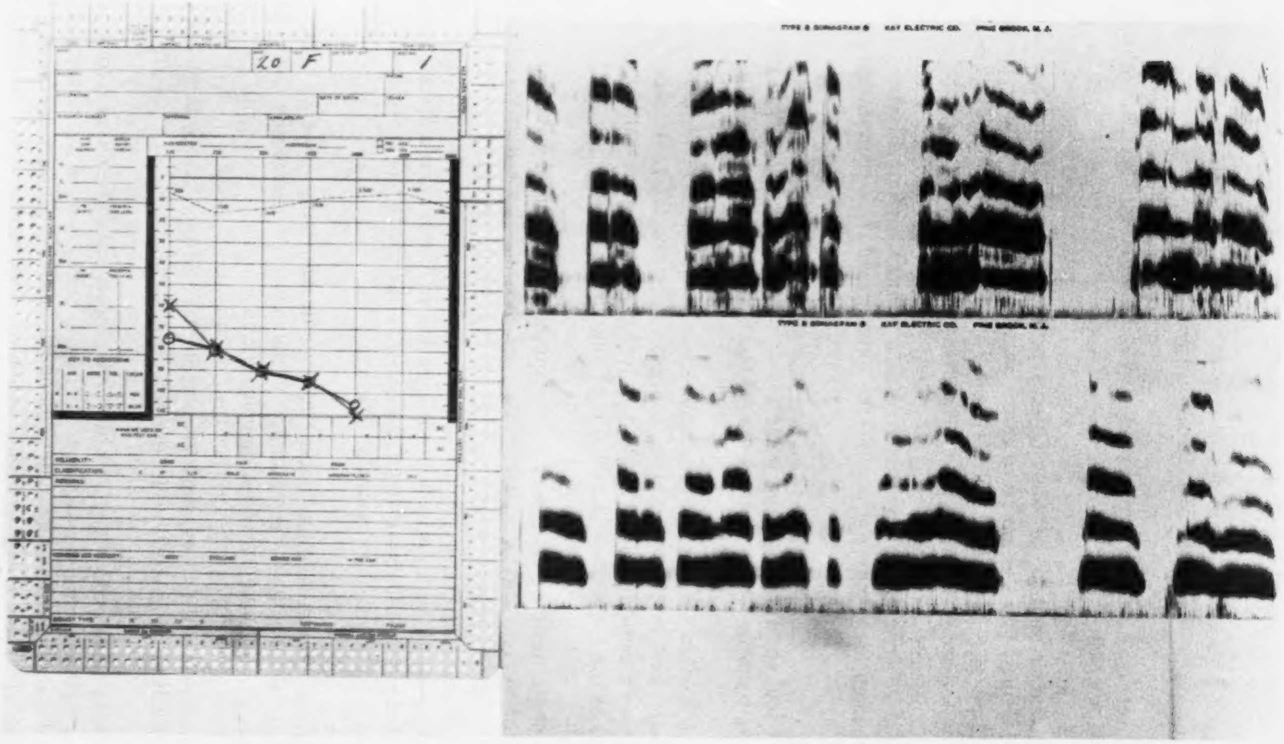

Figure 1. An audiogram and sample Sonagrams of a 20 year old girl saying "than all the riches in the world, my mother." The top Sonagram represents a speech sample recorded in April 1964 and the lower represents one made in January 1965.

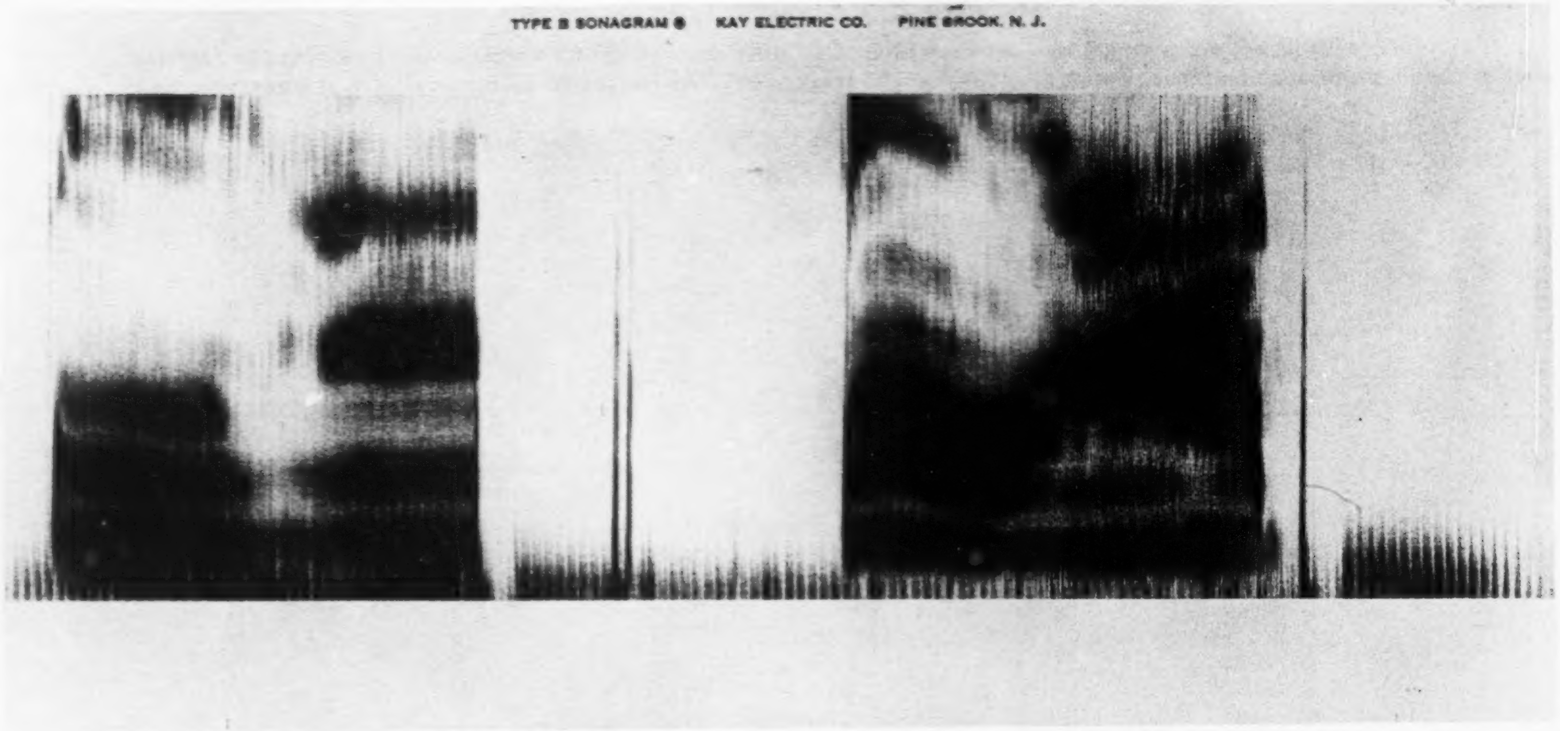

Figure 2. A Sonagram of an 11 year old child used in the current investigation. The words are "May I." The display on the left is the pretest sample and the display on the right represents a sample recorded after the child wore the experimental aid for 90 days.

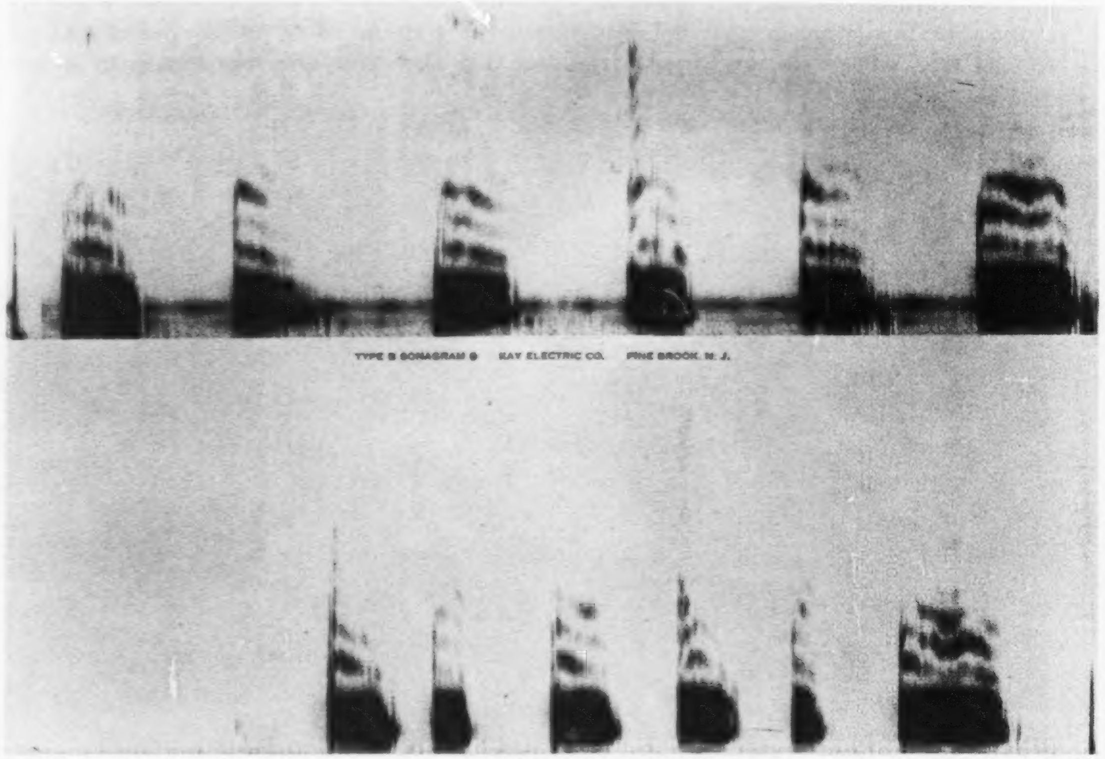

Figure 3. Two Sonagrams of a 15 year old youngster saying "Put the ball on the chair." The top Sonagram represents a pretest speech sample, and the lower represents a sample recorded after the child wore the experimental aid for 90 days.

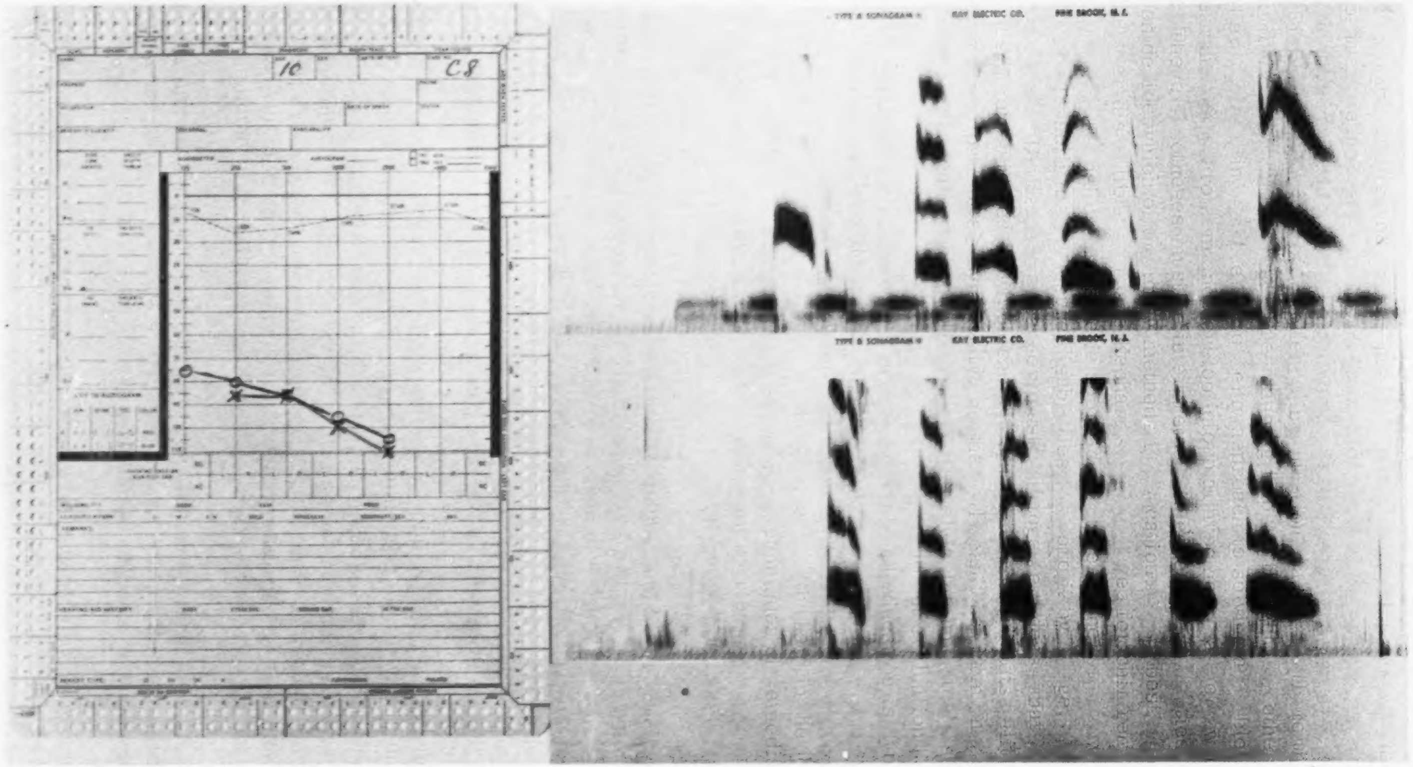

Figure 4. An audiogram and sample Sonagrams of a 10 year old child saying "Put the ball on the chair." The top Sonagram represents a pretest speech sample and the lower represents a sample recorded after the child wore the experimental aid for 90 days.

Figure 3 is an example of the change in rhythm and duration of the speech pattern when comparing a pretest speech sample to one recorded after 90 days of low frequency amplification. The sample sentence "Put the ball on the chair" has been recorded over a time interval of 6.6 seconds. It is noted that on the pretest recording the sentence is considerably longer in total time than the 90 day sample which more closely resembles a normal time. In addition, on closer examination of the Sonagram, it may be seen that the rhythm of the sentence has been improved. On the pretest Sonagram, the words are evenly separated and somewhat longer in their individual duration. The Sonagram of the sample pattern after 90 days demonstrates that the sentence now has a better rhythm and a more normal grouping of words within the sentence to visually demonstrate a rhythm. (See Figure 4)

Figure 4 is an example of a Sonagram depicting several of the characteristics being measured. The sentence is "Put the ball on the chair." In analyzing the visual sample on the Sonagram in the 15-1500 cycle display over a time period of 6.6 seconds, we can observe the following measurable changes occurring:

1. The fundamental frequency has changed from 350 cps to 250 cps in the word "on." In analyzing the fundamental frequency of the word "chair" at its highest peak, the voice reaches a fundamental frequency of approximately 500 cps. The second Sonagram after 90 days shows the fundamental frequency of the voice as being in the 250 cycle range and relatively stable throughout the sentence.

2. The close examination of the Sonagram also reveals a weakening of the low frequencies; while after the 90 day period, the voice now has a lower fundamental frequency and a greater number of harmonics present.

3. The Sonagram shows a change in the rhythm of the sentence. The duration of the pretest sentence is longer than the sample after 90 days; and in addition, the rhythm has been changed.

In the analysis of the Sonagrams of individuals of various ages, the evidence indicates that the young child has had less opportunity to develop voice characteristics classically described as deaf speech. In analyzing the Sonagrams, it would appear that young children respond much more readily to the reestablishment of the acoustic loop through an increase in vocalization. The low frequency amplification enhances the ability of these children to recognize the necessary components in the vowels of normal speech which aid in learning the rhythm of speech as spoken by normals in their environment. (See Figure 5)

There is a feature in the current low frequency aid that is directed specifically at the education of the deaf. The feature is that not only is there a telephone position and microphone position; but, in addition, there is a mike and telephone position which is marked "B" to represent both on the switch. The value of this "B" position is that a child in a classroom for the deaf is able to pick up the teacher's voice through the loop system; and, if the teacher asks or expects a response, the child will be able to monitor his own speech through the acoustic input transducer with the switch in the "B" position.

We feel that this actually establishes a wearable wide range instrument that a child is able to take home and with which he can experience success in all of his human contacts with comparable valuable acoustic stimulation.

We discussed the electrical and acoustical characteristics of these signals and what might be expected. We believe now that it is safe to say that when a signal arrives at the brain, we are no longer concerned with such things as electrical or acoustical characteristics per se; instead, we are thinking of a structured group of transients. New ideas that contribute to changes and improvements will continue to provide many years of fruitful investigation resulting in the maximum hearing ultimately for the entire hearing impaired population.

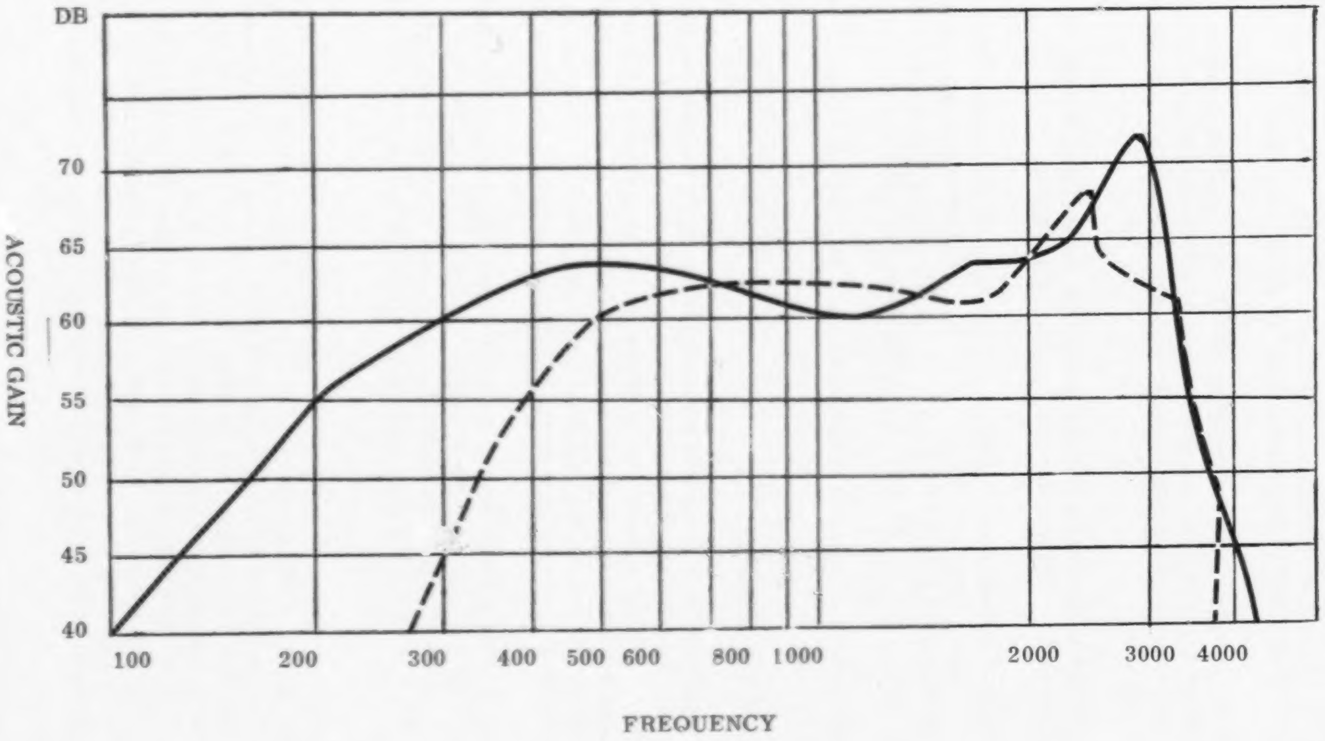

Figure 5. The frequency response curve of the low frequency hearing aid as compared to one of our conventional aids.

SEQUENCE IN TEACHER EDUCATION FOR TEACHERS OF THE DEAF

William N. Craig

Sequence in the teacher education curriculum has received only passing attention by centers preparing teachers of the deaf. The scope or content of the curriculum, on the other hand, has been given emphasis by a number of events including a national conference in 1964 on the preparation of teachers of deaf children and currently by a committee of The Council for Exceptional Children. Briefly, this includes content unique to the deaf as well as much of the content found in public education.

Content, in order to be transmitted effectively to college students, must be placed into an organized instructional program. The selection of a sequential pattern of presentation may have a significant effect on the attitudes and abilities of these prospective teachers of the deaf.

I would like to propose a framework for the instructional program which is composed of seven units. These units might be listed as follows:

1. Basic orientation to the deaf
2. Developing technical skills
3. Developing a goal orientation
4. Organizing to meet educational goals
5. Establishing an area of competency
6. Extending educational concepts
7. Evaluating the educational process

Each ot these units can be taken independently and examined in terms of their sequential relationship

Basic Orientation to the Deaf

The rapid growth of programs preparing teachers of the deaf has been accompanied by an increase in recruiting efforts. It is not unusual for a student to accept a scholarship and enter a college program in the education to the deaf with little or possibly no prior experience with either deaf adults or deaf children. In some instances, the professional workers in the field of the deaf have failed to appreciate what this lack of familiarity with the deaf means in terms of student attitudes and concepts about the deaf.

Basically, this unfamiliarity means that the college student will need a general orientation to the deaf adult before he begins his work with deaf children. It is impossible for him to appreciate the broad implications of severe auditory disability on the education of a deaf child without having direct personal contact with deaf adults who have achieved various degrees of success.

In this unit, therefore, the student would begin his professional preparation outside of the classroom. In Oregon, we begin by visiting deaf people on the job at the Tektronix Corporation (an electrical manufacturing industry), a shoe repair shop, a data processing lab, a body and fender shop, and in other vocational settings. We also visit a number of service facilities which are available to the deaf such as the offices of the Division of Vocational Rehabilitation and the Portland Center for Hearing and Speech. In each location, the students have an opportunity to discuss problems personally with the deaf employee or client and with the employer or professional worker. In addition, the president of the Oregon Association of the Deaf meets with the students for informal discussions during this period.

The purpose of these out of school experiences is to help the student establish some understanding of deafness and the problems of deaf people by personal contact and individual inquiry. Although he will gain only a partial understanding of the problem at this time, he will have looked at the problem through the front door rather than through the nursery door. After this brief encounter with the deaf adult, the student can postulate some of the goals for the education of deaf children. Certainly, he has become more aware of the magnitude of the problem through these personal experiences. Hopefully, he has developed a sense of purpose.

Developing Technical Skills

Skill in phonetic transcription, development and analysis of speech sounds, and analysis of grammatical structure must be acquired through careful attention and practice. After the somewhat disturbing experiences encountered initially in the first unit, the development of basic skills offers some security and some structure to the field of the deaf. It seems to be better to approach these basic skills from their content area rather than from an applied area; for example, to concentrate on language structure apart from specific methods of teaching language.

Specific techniques can be brought in as the practicum experiences with deaf children increase. It is important that the student have some regular, but preferably informal, contact with deaf children at this time. Any break in this direct contact with the deaf tends to develop an uneasiness about working with the deaf. The prospective teacher needs to establish and to maintain a comfortable relationship with deaf children and, to some extent, with deaf adults. Practice in teaching a deaf child a sound or a language concept, on the other hand, needs to be carefully structured and supervised at this time.

Developing a Goal Orientation

Particular attention needs to be given to the transition from the period when basic skills are developed, with the practice situation on a one to one basis, to the period when total lessons are prepared and the student teacher begins working with a class of deaf pupils. Basic skills provide tools for working with specific problems of deaf children, but these tools are useful only when applied in an educational plan. The development of this plan, in turn, depends on the student teacher's ability to define educational goals.

The importance of defining appropriate goals strongly suggests that special attention needs to be given to the development of a goal orientation in student teachers. One method of fostering this orientation is to provide a series of classroom observations for the student teacher where he is assigned a specific person, activity or technique to note carefully. If these observations are followed immediately by a discussion, the student can be taught how to make certain discriminations. Once an analysis of a lesson can be made, it is usually possible to extract the purpose of the lesson and to project future goals. It is always interesting to compare this with the teacher's own ideas.

It is difficult for a student to gain much from an observation without being given some prior set. He may observe certain techniques in the teaching of speech without asking either about the immediate or long term speech goals or how the lesson fits into the broader educational goals. These observations and discussions are intended to focus entirely on educational goals during this period. The development of a lesson plan will depend on the adequacy of the goal selection process.

Ability to select goals appropriately will enable the student teacher to approach methods of teaching the deaf in a flexible and hopefully creative manner. Absence of a healthy goal orientation tends to develop a rigid, by the numbers approach to teaching.

Organizing to Meet Educational Goals

Once the process for developing short term and long term goals for the education of deaf children has been established, the actual methods, courses and practice teaching experience can be initiated. This particular aspect of the teacher education program is usually the strongest part of the total program. One part of this unit, however, is sometimes neglected.

The deaf child, in order to learn language, requires some special treatment, both in the classroom and outside of the classroom. Attention needs to be paid to planning the out of school activities. In some instances this means working closely with the parents of deaf children, while in other instances, coordination is needed with dormitory supervisors and other members of the school community. Since it is often the responsibility of the classroom teacher to coordinate language instruction, a working relationship needs to be initiated by the teacher. This working relationship depends on the student teacher knowing how to approach the parent or dormitory counselor, knowing the limits of this cooperation in language instruction, and knowing the type of information which needs to be provided. For example, the teacher needs to create a climate of mutual respect when seeking the cooperation of a dormitory counselor and should provide information in writing which the counselor could reasonably apply to deaf pupils in a practical situation.

Establishing an Area of Competency

All teachers of the deaf share a core of information and experiences; however, the education of deaf children is a complex process requiring a number of specialists. Division of effort is made according to the age and grade level of the pupils, just as it is in the public school setting. In addition, specialists are needed in the area of speech instruction, instruction for the slow learner, instruction of neurologically impaired children, and instruction in special activities such as drama, athletics, and other areas. A decision must be made at some point to remove the prospective teachers from the core program and encourage them into an area of specialization. In this manner, each student may establish a particular area of competency in addition to his general background. It is important that this unit be distinctly separate from the more general type of experiences presented in the previous unit.

Extending Educational Concepts

Having invested some effort in gaining an area of competency, the student teacher is particularly ready to understand the broader aspects of the educational process. The roles of the audiologist, psychologist, administrator, speech therapist, dormitory counselor, and other professional workers can be better understood. At this time the students can identify with the field of the deaf, and can relate this field to each of these other professional areas.

Educational concepts might be organized into a set of six frameworks. The first two frameworks are specifically related to the disability imposed by deafness and pertain to the development of communication and the development of adjustment patterns. The four remaining frameworks are concerned with interaction of the deaf person with society. That is, the preparation of the deaf person for: (a) personal development and further education, (b) employment, (c) community living, and (d) family living.

The prospective teacher should now be able to integrate various professional capabilities within these six broadly defined frameworks. It is now possible to talk about a designed educational environment and professional teamwork in meaningful terms. Without a solid concept of a designed environment, the prospective teacher would have difficulty seeing the educational program as extending beyond the classroom door. However, with this concept, he can see the potentials of an education integrated through both vocational and academic experiences, through dormitory life as a reinforcement of these learning experiences, and through the outside community and work worlds as tutors in practical application. The designed environment and cooperative educational activities are necessarily companion concepts.

Evaluating the Educational Process

Although it seems apparent that educational evaluation should be in terms of the educational goals, it is sometimes difficult to impress this concept on a practical situation. In addition, school regulations and customs may tend to channel evaluation procedures into well worn ruts. Often standards for accreditation and public school methods are considered even when they are not related to the educational problem at hand. The constant problem of adequate instrumentation plagues measurement problems in the field of the deaf as it does in other areas of special education.

Careful consideration of existing tests and evaluation procedures must be given, but the student must be cautioned about uncritical acceptance of these devices and techniques. Instead, the student should gain an understanding of the relationship of measurement to the task assigned and the goal selected. Necessarily then, the problem of evaluation must follow an examination of the educational process in the preceding unit.

At this point, the sequential pattern in the preparation of teachers of the deaf is complete. In summary, seven units have been suggested in which the courses and activities of a teacher education program for teachers of the deaf can be placed. These seven units have been organized into a sequential relationship which is intended to assist a college student through the maze of professional preparation in a logical and purposeful manner. The importance of careful attention to sequence in the preparation of teachers of the deaf has become particularly evident with the very rapid increase in the number of students entering college programs in teaching the deaf since 1962. Since few of these students have had any prior experience with either deaf children or deaf adults, the field of education of the deaf must be presented systematically. Careful development of sequence can contribute significantly to this objective.

The sequence here presented has emphasized a number of aspects which are not commonly included in programs preparing teachers of the deaf, aspects of orientation which have possibly been overlooked because existing programs have not developed a logical structure. The suggested units seek to insure that the student gain a realistic concept of the deaf person in society and that he can view the educational process in terms of the deaf person's maximum potential in that society.

SERVICES FOR THE HEARING HANDICAPPED AND THEIR PARENTS

George W. Fellendorf

There is ample evidence in the literature stressing vital importance on the cooperation of informed parents in the education and ultimate success of hearing handicapped children. The emphasis, of course, has been upon the cooperation of informed parents because there is additional evidence of the difficulties which can be encountered when parents are unfamiliar with the potentials as well as the limitations of their children and the educational program in which they are placed. Because of the element of uncertainty on the part of educators as to the capabilities of parents and their status of information, there has been, historically, a tendency to disregard or discount the parents. Frankly, on the basis of the trouble that many parents have taken to become informed, this judgment on the part of educators has been well founded.

The Alexander Graham Bell Association for the Deaf, whose headquarters at the Volta Bureau in Washington, D. C., has endeavored for 75 years to maintain an information center to assist the parents of hearing handicapped children in any way possible within the limited financial resources of the organization. Some of you may recall that Alexander Graham Bell himself had an abiding interest and faith in the parents of deaf children if they were properly advised as to their responsibilities. One of the many reasons for forming an independent organization by Dr. Bell was that he felt a forum should be provided where both professionals and lay people, including parents, concerned with deaf children might meet together to compare ideas and to learn from each other's experience.

At the present time the services to individual parents provided by the Alexander Graham Bell Association for the Deaf revolve around the information center activities at the Volta Bureau and the opportunity to participate in meetings, both national and regional, held throughout the United States and Canada. But to be more specific, any parent anywhere in the world can write to the Alexander Graham Bell Association for the Deaf and simply express a need for guidance, information, and possibly just for inspiration. If the child of the parent is a preschooler or in early school years, the parents will receive in reply to their first letter a personally typewritten reply as well as a Parent's Kit. The Parent's Kit, which is forwarded at absolutely no charge to the parents, includes a free sample copy of The Volta Review, the official journal of the Alexander Graham Bell Association for the Deaf; a series of reprints, one of which is entitled "For the Parents of Very Young Deaf Children"; and a listing of the various publications which are available from the Bell Association.

Also included in the Parent's Kit is information about a round robin letter system called "Roundabouts." These are letters which circulate among five or six parent couples who have children generally of preschool age and approximately of the same age. These Roundabouts originate at the Volta Bureau and go to a parent who adds a letter describing her problems and solutions where she has found them. Then she forwards the folder of letters to the next parent on the list. At the end of the circle there is a professional person (a teacher, speech pathologist or audiologist) who has had experience with preschool deaf children and who then comments on the various letters that have been forwarded to her. Then the packet of letters comes back to the Volta Bureau and is circulated again, each parent adding a new letter and pulling out the old one as she forwards it on.

To some it may appear that the Roundabouts are a case of the blind leading the blind, and I could not deny that there are situations in which one parent does not fully appreciate the implications of the other parents' problems. But generally the parents talk about themselves and express their own feelings and their own attitudes and their own solutions to problems, which in turn may be accepted or rejected by other parents in the Roundabout. Also, of course, the professional coordinator is always cautious to insert qualified statements, ramifications, etc., where indicated, in order that no single parent may go off the deep end in assuming that her problems and her solutions are identical to those of others. But the real impact is in the feeling of familiarity, of personal contact which comes from the circulation of these Roundabouts.

Also included in the Parent's Kit is a listing of the lending library books which may be borrowed by members of the association for the cost of postage. This immediately makes available to any person, parent or otherwise, a large library of books relating to deafness, speech, and hearing. To borrow books, however, the parents must become members of the association which costs only $5 a year and includes a subscription to the monthly journal, The Volta Review.

It might be asked by any professional, "How do you know the child is deaf?" And, of course, on the basis of a brief letter from the parent, many times we are not entirely sure that the child is deaf. Most often, however, the parents write after having been referred to our organization by a social worker, physician, audiologist, or even by a friend or neighbor. But at this particular point, our concern is not that the child may be deaf or not deaf or may have other complications, but rather that the parent has sought help and is in need of some direction for his thinking and some emotional outlet. We only provide information that will enable the parent to help the child in the event that the child does turn out to have a profound hearing loss and may need attention.

One of the most important recommendations which is made to the parents is that they contact the John Tracy Clinic if they have a preschool deaf child. I might add that we also hear from a large number of parents who have learned about the Alexander

Graham Bell Association for the Deaf through mention in the John Tracy Clinic Correspondence Course. Thus there is close liaison and referrals between the two organizations which we firmly believe is to the mutual benefit of the parents and the child.

Following receipt of the Parent's Kit and correspondence from the headquarters of the Alexander Graham Bell Association for the Deaf, many parents forward their applications for membership in the Bell Association in order that they may take advantage of the articles in The Volta Review written for them. The Volta Review has been in continuous circulation since 1899 and has served more or less as a bible in the field of oral education of deaf children through all these years. Most of the reprints dealing with parent problems available from the association first appeared in The Volta Review as part of a regular issue. The editorial policy of The Volta Review is to endeavor in every case possible to provide abstracts of technical articles so that they can be understood by the parents; and also to include articles, news, etc., which are specifically directed toward the interests and needs of the parents of deaf children. That this has been a reasonably successful venture is indicated by the fact that there are almost as many parents of deaf children subscribing to The Volta Review as there are professional teachers of deaf children.

But another important service of the Bell Association to the parents of deaf children is found in its services to the organized groups of parents throughout the world. Back in the 1890's, Dr. Bell was writing letters to the effect that if only the parents of deaf children could get together and offer a united voice, they could be the most important influence on the education of deaf children within the United States. It was not until the year 1958 that specific action was taken to establish a national organization of parents of deaf children. This organization, originally known as the Parents' Section of the Alexander Graham Bell Association for the Deaf, was formed in Pittsburgh, Pennsylvania, at the annual meeting of the Association. Its purpose was to provide a national organization with which local groups of parents of deaf children could affiliate. It was not intended to offer memberships to individual parent couples but rather to groups, whether the group be associated with a state school for the deaf, with a local clinic, with a local hearing society, or a day school-day class situation. Local parent groups seeking affiliation with the national organization had only to acknowledge the objectives of the association, that is, the encouragement of the promotion of the teaching of lipreading, speech and residual hearing and to forward a minimum admission of $1 for each parent couple to the national office.

The reaction to the establishment of the parents' section was dramatic. From the beginning of no members in 1958, the affiliated groups have reached 141 as of April 1, 1965. Parents represented by these groups are in excess of 5,000 and, while this is still a minority as far as the total population of deaf children in this country is concerned, it nevertheless represents the only national organization with which groups of parents may affiliate in this country. Now exactly what do these local parent groups receive for their affiliation and their $1 per parent couple a year annual dues?

First, they receive whatever value any group receives from affiliating itself with a nationally and internationally recognized organization whose objectives are similar to theirs. This includes the services of the research library at the Volta Bureau, the point of contact with other parent groups throughout the country, which in many cases is one of the most vital services that the association can offer. It receives a newsletter, now known as the IPO News, since the name of the organization has changed from the Parents' Section to the International Parents' Orgazination. Also, there has been prepared a long list of available speakers who will visit parent groups, to address meetings many times at no cost to the groups themselves. This has provided a valuable source of talent to talk to parent groups, to give demonstrations, to show films, and to basically inform parents of their local and national responsibilities and how they may be met.

In addition, there is periodic contact by members of the staff of the Alexander

Graham Bell Association for the Deaf with local parent groups when they are invited to participate in local affairs. Many times the reactivation of a lethargic group of parents can be measured from the date on which a representative of the national organization has visited a community and inspired the parents not only by the personal reactions expressed but also by the news that is brought from other parent groups throughout the country. It is often a surprising but stimulating thing for groups of parents in a community to learn that their problems are not at all unique and are very often the same problems being experienced in other parts of the United States.

To summarize then, specifically what are the services of the Alexander Graham Bell Association for the Deaf to the hearing handicapped and their parents? For one thing, our services directly to the hearing handicapped themselves are extremely limited. However, the association considers its primary responsibility to lie in the direction of parents and educators of young children who are still in a developmental stage in their language development as well as in their speech and hearing. Thus, continued emphasis is upon the parents and those others working with the parents and the children. To individual parents there is advice and guidance available on an individual basis but in every instance the association also directs the parents toward responsible authorities in the area in which the parent lives. In no instance does the association endeavor to diagnose the child's problems and offer specific recommendations without the counsel of locan medical or clinical services. Many times the best advice that can be given to the parents is to contact the local superintendent of schools, or direct the parents to a preschool program, or several programs wherein they can learn more about the local facilities and how they might be put to use. Also, there is becoming a growing tendency for the Bell Association to recommend that the parents of a teenage deaf child contact an oral deaf adult in the community or nearby to talk about that adult's experiences in growing up with a profound hearing loss in a hearing world. This we have found is one of the most important services that we are able to offer today; that is, to acquaint parents of children with adults who have already gone through some of the trying experiences of learning to live with a hearing loss.

For individual parents the resources of the Bell Association are enormous. We often find occasion to direct parents who are going overseas or returning from other countries as to the various facilities that might be available to help them and their child in different parts of the world. For parent groups, the association serves as a rallying point for groups of parents throughout the world who have a basic interest in oral education and seeing that their youngsters have the maximum opportunity to learn oral communication in a hearing world. At each conference of the Bell Association, whether it be national or regional, there are special sessions designed specifically for the parents of deaf children, either as groups or individually. Through the International Parents' Organization, any organized group of parents may find opportunity to affiliate with a national group whose influence and reputation is one that can be extremely helpful in terms of establishing local programs for the benefit of all the children in the community.

We at the Alexander Graham Bell Association for the Deaf take our responsibilities very seriously. There are times when we find it necessary to dodge a particular inquiry when it is evident that we do not have all the facts. Sometimes we do not even have any of the facts. But in every instance we try to direct the parents to where they can get good diagnosis, good counseling, and also where they can get the inspiration that is so often necessary to get over the rough spots in their experiences with their children.

Teaching of speech, lipreading and the use of residual hearing is a process which goes on both within the classroom and without. We believe, as did Dr. Alexander Graham Bell, that the measure of success of a child may often be found in the manner in which his parents had participated and assisted the school in its program. The services of the Association are available to all, and very many of them are available at no cost.

The only problem in making these services available is that the parents have not asked for them. To this end, therefore, speeches similar to this we hope, will encourage other professionals to recommend that parents contact our association so that we may, in turn be of service to these youngsters and their parents.

MONAURAL VERSUS BINAURAL HEARING AIDS

C. P. Goetzinger

Interest in attempting to demonstrate objectively the advantages of binaural over monaural hearing has engaged the attention of scientists for almost two centuries. Thus, according to Rosenzweig (1961) Giovannia Battista Venturi, a Professor of Physics at Modena and Pavia, reported in 1800 on sound localization of human observers and concluded that, "The inequality of the two simultaneous sensations of the two ears informs us of the true direction of the sounds." He also observed that subjects with unilateral deafness had to turn their heads to the source of the sound in order to localize, and that they made frequent errors when brief sounds were used. Venturi, as a result of his experiments, propounded the intensity theory of localization which was to remain the major explanation for the phenomenon even in the first part of the twentieth century. Since the time of Venturi, numerous experimenters have concerned themselves with the study of localization as well as with other aspects of monaural and binaural hearing.

Within the last two or three decades the development of electronic equipment has made it possible to study more precisely many of the older problems, and in addition, to explore areas which had previously been un-assailable because of the lack of adequate tools.

Hirsh (1952), in reviewing the literature on monaural and binaural experiments as well as his own research, reported in 1950 that binaural was superior to monaural sensitivity for pure tones, for speech, for the intensity and frequency difference limens, etc. Concerning the older problem of auditory localization, time (phase), intensity and the spectral composition of the stimulus are considered to be the major variables. Furthermore, time has been found to be dominant for low frequency localization (below 1400-1500) whereas intensity predominates for the high frequencies. Since complex stimuli containing both low and high frequencies constitute many of the sounds to which we are daily exposed, there appears to be a qualitative factor or an interaction between the various components, which in conjunction to head turning, provides subtle cues for localization. According to Wright: "Interposition of the head between the ears in a sound field creates a difference at each ear in the relation between the individual sounds constituting a complex auditory stimulus, like speech. As a consequence the quality of the sound at each ear will appear different" (1959, p. 486). Wright goes on to say that although the qualitative aspects of localization may not be readily apparent to people with normal hearing, nevertheless, there is sufficient evidence in the literature that some unilateral deafened individuals are adept at localizing sounds in space (1959).

The development of ear level hearing aids within the last ten to 15 years has fostered interest in another area of the monaural versus binaural hearing problem, i. e., as it pertains to auditory discrimination. On the one hand there are the claims of many reputable hearing aid dealers, of hearing aid users, of many competent audiologists, and of some scientists, the latter of whom have based their judgments on theoretical formulations, that the binaural hearing aid is superior to the monaural type (Bergman, 1956, 1957; Carhart, 1958; Dey, 1958; Haskurs, 1960; Hirsch, 1950, 1952; Koenig, 1950; Lewis and Green, 1962). In addition there are a few studies in the literature which support the foregoing claims. Again, it would appear reasonable to postulate that binaural hearing aids more nearly represent the natural mode of auditory reception for the hearing impaired, and hence, would provide more efficient hearing. On the other hand, however, research findings appear to be mounting which are not in support of the generally accepted viewpoint.

With reference to positive results, Markle and Aber (1958) studied 15 conductively deafened otosclerotics using a body mounted (center of chest) monaural aid in the one condition and two body type aids, one mounted at each ear, in the other condition. They evaluated their subjects employing various signal to noise ratios under two methods of assessment. The first method consisted of the then prevailing technique of channeling the speech and noise through a single speaker. In the second method they had the speech and the noise coming from separate speakers and placed at 45 degree angles from the left and right ears of the subject in the facial aspect. The CID W-22 records constituted the speech material. These investigators found the binaural hearing condition to be superior to the monaural at signal to noise ratios of 0 decibels and -10 decibels under the method of separated speakers. However, for the conventional method (noise and speech through one speaker), significant differences were not found. They concluded that the then current conventional method for evaluating hearing aids was not adequate to show the superiority of binaural over monaural hearing aids.

In a subsequent study, Belzile and Markle (1959) compared monaural and binaural hearing aids with 15 conductive and 15 perceptively deafened subjects. The binaural condition was found to be superior to the monaural one for the conductives at S/N ratios of +20 decibels to -10 decibels, and for the perceptives at S/N ratios of +10 decibels to 0 decibels. Hence, the investigators concluded the binaural aids were superior to the monaural aids under the conditions of the experiment.

More recently, Decroix and Dehaussy (1962, 1964) have reiterated the reasons for expecting superiority of binaural over monaural aid use, and in addition, have emphasized certain requirements which must be met if improvement is to be realized. One of these is that the difference between ears should not exceed 15 decibels. Furthermore, they cited the results of other French investigators in support of their own findings.

In conjunction with the above are the clinical observations of respected audiologists as to the additional benefits which are derived from binaural hearing aids. Haskins and Hardy (1960) in connection with the aforementioned have stated, "They (binaural users) are more effective communicators."

On the other side of the coin, however, there have been several studies reported which have failed to show the anticipated gains as presented above. Hedgecock and Sheets (1958), employing the conventional method of evaluation (noise and speech from the same speaker) failed to show a significant difference between the monaural (aid worn on chest) and binaural conditions (two body type instruments mounted at the ears). Their findings would have been predicted on the basis of the Markle and Aber study.

Jerger and Dirks (1961) attempted to replicate the Belzile and Markle study. Through the cooperation of Dr. William Carver of the Beltone Company they were able to obtain the identical hearing aids which Belzile and Markle had used. However, as Hirsh pointed out, Jerger and Dirks (1961) had conducted their monaural tests with the hearing aid mounted at ear level whereas Belzile and Markle had used the center of the chest or body mount. In other respects, the experiments were identical, however they failed to demonstrate a significant difference between the two conditions.

In an elaborate experiment involving 20 normals and 60 hearing loss cases for the age range of 40-70 years, DiCarlo and Brown (1960) compared subjects with conductive, mixed and perceptive hearing losses under binaural and monaural hearing aid conditions with multiple speakers. As in the previous investigations PB words were used as the speech signal. No differences were found for the groups between the two conditions at any of the signal to noise ratios. Furthermore, the perceptives expressed the greatest difficulty in adjusting to the binaural condition as determined by questionaire.

In another study Jerger, Carhart and Dirks (1961), using two speakers, tested 48 subjects under the binaural, monaural body and monaural head conditions. Their subjects were grouped according to age. Those in Group I were under 51 and in Group II over 59 years. In this study sentences as well as PB words were employed as the speech material. In the first experiment NU Test Number Two, a PB word test, constituted the test item coming from one speaker while a competing message (sentences chosen from the Bell Telephone Intelligibility Lists) emitting from the second speaker provided the interference. For the second experiment NU Test Number Three, (a modified sentence test consisting of three equivalent forms), served as the test stimulus and connected discourse as the competing message. Test stimuli and interfering message were randomly alternated between the two speakers in order to simulate as nearly as possible the listening conditions of daily life. Test Number Three is essentially a multiple choice test in which the subject was required to select the proper answer from four choices.

In describing the ear to be fitted for the monaural conditions, the authors wrote:

> In selecting the ear to be fitted under two monaural conditions the experimenter exercised his clinical judgement as to which ear was more appropriate to fit, on the basis of audiometric contour and unaided PB discrimination. In most cases the choice between ears was quite arbitrary since losses were well balanced and PB discrimination was relatively good on either ear (Jerger, Carhart and Dirks, 1961, p. 141).

The results of the NU Test Number Two were negative for the monaural body as compared to the monaural head condition both for the young as well as the old group. With reference to the binaural and monaural conditions the former was only slightly better than the latter being of a magnitude of about 10 percent. The Nu Test Number Three produced similar results. There was a slight gain in discrimination from moving the aid from the chest to the head. Since cases with slight hearing losses could be functioning as binaural receivers even under the monaural aided condition, the subjects were regrouped on the basis of slight and marked losses, and the data from NU Test Number Two analyzed again. They found that those with little hearing loss did actually function as binaural users would. Hence, the conclusion was reached that those with slight loss had little to gain from the second hearing aid.

Since appreciable gains in discrimination from binaural hearing aids could not be demonstrated experimentally by the Northwestern University group, the search for differences was directed in another direction. To this end, Dirks and Carhart (1962) developed an inventory to sample the reactions of binaural, monaural and nonhearing aid users under various life conditions of hearing. Briefly, the subjects rated themselves on 27 different environmental conditions. For nine of the conditions the binaural users rated themselves as more efficient that the monaural users, however, seven of the nine conditions proved to be situations involving relatively quiet environments. Both groups reported relatively poor performance in strong background noise. When statistical analyses between binaural and monaural hearing aid users were performed for 26 of the items of the questionaire, ten significant differences emerged in favor of the former, however, seven of the items are also included in the previous mentioned nine situations of binaural superiority. In general, it was found that binaural aid users tended to report advantages in situations which did not contain a great deal of noise. On the one hand, binaural users expressed strong belief in the efficacy of two aids. Monaural and non-users were more cautious. These experimenters concluded that:

> The several findings point up, first, the need to investigate further where binaural hearing aids offer extra efficiency which is limited to situations with low background sound and, second, the need to determine whether the strong commitment some users have for binaural aids may not arise primarily from an emotional connection that two aids are better than one (Dirks and Carhart, 1962, p. 321).

It is clear from the preceeding discussion that the problem of binaural versus monaural hearing aids is still with us. Wright (1959) in an exceedingly provocative article has pointed up many factors which could militate again marked improvement in discrimination as the result of a second aid. In the first place, hearing sensitivity for pure tones in the hard of hearing is not infrequently different from one ear to the other, to say nothing of the differences between frequencies which occur in the same ear. The problem, then, of attempting to balance the ears to a point of obtaining adequate fusion for binaural summation is sizeable. In addition to this threshold factor, of considerable magnitude are several super threshold factors of hearing loss such as recruitment, rate of recruitment, dynamic range of hearing, altered slope of the articulation function, ability to function in noise, etc. which must be taken into account in attempting to reach a balance between the ears. As Decroix and Dehaussy have pointed out, there are certain requirements which must be met in order to achieve the maximum binaural functioning.

Included in their recommendations were the following. First, that the hearing loss be conductive in type; second, that discrimination be relatively good; third, that recruitment be minimal; fourth, that the gain of the aid be sufficient to give an intelligibility threshold within the range of 20-25 decibels; fifth, that the two ears "do not present a too-marked functional asymmetry either qualitatively or quantitatively." (Hahlbrook specifies not more than 15 decibels apart, 1962).

Yet it will be recalled that neither Di Carlo and Brown (1960) nor Jerger and Dirks (1961) could demonstrate binaural superiority in the case of conductively deafened subjects. It is of course true that the conditions as set forth by Decroix and Dehaussy may not have been met in either experiment. However, one might have expected a stronger trend toward superiority, if a real advantage exists.

One of the requirements as stated by Decroix and Dehaussy was the need for good discrimination. It is well known, of course, that conductive hearing loss cases have good discrimination by most standards. However, the speaker has observed through the years that good discrimination in each ear, as measured by the W-22 test, monitored live voice, or undistorted tape recordings of Harvard PB lists, does not necessarily assure good discrimination in each ear even in quiet, when more difficult tests such as the Rush-Hughes recordings are employed. To restate the issue, it has been my observation that patients with hearing losses not infrequently show significant differences between ears on difficult discrimination tests even though the two ears are balanced. Discrimination in daily living on the average is more taxing than repeating PB words in a sound treated environment. Therefore, it seems not amiss to suggest a replication of some of the past negative research with the exception that a difficult discrimination test be used to balance the ears of the subjects in the first place. To wit, Goetzinger and Rousey wrote in 1959: "Aside from the possibilities of the difference score as an aid to diagnosis, it may also prove useful in hearing aid selection, and in prognosis relative to use of a hearing aid. For example, unequal difference scores between ears may be one of the reasons certain individuals do not adjust well to binaural aids. In such a case it might be found that a monaural instrument is preferable" (779).

(The difference score referred to is the difference in discrimination between an easy test such as the CID W-22 test records and the difficult Rush-Hughes recordings of the Harvard PB words.)

Other factors such as a reasonable similarity for the thresholds of the two ears, consideration of recruitment, slope of articulation function, etc., would have to be taken into consideration. However, it seems logical to hypothesize that a major factor for binaural summation in auditory discrimination would be the balance between ears for difficult speech.

Carhart (1958), in discussing methods for assessing binaural hearing aids, suggested the use of reverberant material, or as he phrased it, "wherein the test material competes with itself" (p. 49). Since no research has appeared in the literature using reverberant speech, it was either tried and found wanting but not reported, or else the suggestion was never carried out. In any event, it is being repeated for what it is worth.

Licklider in 1948 investigated six permutations of interaural phase relationships. Previous workers had used either ambient noise to mask speech in which case the waves reaching the two ears are not exactly alike, or else introduced noise electrically through earphones so that the waves to the ears were identical.

The problem for study then was whether white noise produced the same masking in the two situations, or is masking dependent upon the degree to which the noise waves in the two ears are correlated.

Using a system that provided separate channels to the two ears, six arrangements of interaural phase relation between speech and noise was studied. They were: (a) Speech and noise in phase, or homophasic: (++) (b) Speech in phase and noise out of phase or antiphasic: (+-) (c) Speech in phase and noise in random phase or heterophasic: (+0) (d) Both noise and speech out of phase or homophasic: (--) (e) Speech out of phase and noise in phase, or antiphasic: (-+) (f) Speech out of phase and noise in random phase (-0) or heterophasic. The speech material was PB words.

The results showed that intelligibility was highest and masking least when the noise was in phase and the speech out of phase. With speech in phase and noise out of phase the scores were second highest. Intelligibility is lowest when speech and noise was out of phase and second lowest when both were in phase. The arrangements, involving the other generator, speech in phase and speech out of phase with random noise occupied the intermediate positions.

Interaural phase effect is influenced to some extent by the noise level. It also is dependent upon the speech to noise ratio being more pronounced at a ratio of 10 decibels than at a ratio of 0 decibels.

Hefler (1964) recently has attempted to apply the above considered interaural phase effect to the problem of binaural hearing aid evaluation. His subjects were 36 adults with normal hearing. Hefler mounted a speaker at head level on each side of his subjects at a distance of 30 inches. The equipment was such as to permit the experimenter to study the various parameters of interaural phase effects. The subjects were tested under two interaural phase conditions, i.e. homophasic and antiphasic, both in the balanced binaural listening condition and in an unbalanced binaural condition. The former refers merely to listening with both ears open; the latter listening with one ear plugged, and thereby causing about a 23 decibel unilateral hearing loss. Hefler's arrangement made possible a comparison of monaural and binaural discrimination without the influence of side effects which are possible when noise and speech come from separate speakers. Hefler used long duration speech signals (sentences which contained five key words per sentence to be discriminated) as he considered this factor an important variable of discrimination.

Hefler's subjects obtained superior discrimination in the antiphasic binaural condition. The antiphasic monaural condition gave second best results. The homophasic conditions again proved less effective for auditory discrimination.

In view of his experiment, Hefler has recommended a procedure to employ for comparing binaural and monaural hearing aids.

1. Discrimination should be tested in the presence of competing sound;
2. Low S/N should be used to allow the binaural system to show improvement;
3. Localization should be eliminated; and

4. Relatively long duration speech signals should be employed with partial credit for partial discrimination being given (1964, p. 288).

Before terminating this discussion, consideration should be given to recent clinical experiments associated with the fitting of hearing aids in cases of unilateral conductive and perceptive impairments. The readers might recall that in years past the fitting of a hearing aid when a patient had one normal hearing ear was regarded as anathema. The recent work of Malles (1950) with unilateral conductives and Harford and Musket (1964) with unilateral conductives as well as perceptives appears to indicate that in many such cases, considerable help can be realized. In addition, Harford reported at the recent ASHA Convention (San Francisco, 1964) on successful use of hearing aids by executives with unilateral total hearing loss. In such instances a microphone is mounted on the side of the dead ear. The sound is led to the good ear which, however, is fitted with an earmold allowing the good ear to remain open. With this arrangement, for example, an executive sitting in a board meeting has the use of his good ear for discussion on that side, and in addition, is receiving information from the deafened side via the good ear. Several successes in fitting such cases were reported.

To summarize, an attempt was made to acquaint the readers with the present status of the monaural versus binaural hearing aid problem. As a review of the literature incicated, there is considerable difference of opinion concerning the relative virtues of monaural and binaural hearing aids. Unfortunately, experimental studies have not to date settled the issue. Several suggestions were made concerning additional research on the problem. Also, the recent clinical experimentation associated with the fitting of hearing aids in cases of unilateral hearing losses was discussed.

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ADULT EDUCATION FOR THE DEAF

Ray L. Jones

In an era of national concern for the culturally deprived, the disadvantaged, and the educationally handicapped, it is appropriate that our attention today should focus on the educational needs of adult deaf persons. It is my belief that this is the most neglected, the most disheartening, and therefore the most challenging area in public education today.

There are few communities in America today which do not keep the schoolhouse lights burning at night for adults of the community who recognize that lifelong learning is essential if they are to keep pace with the explosion of knowledge in our present world. It is significant that each year thousands of adults receive their citizenship papers, complete grade school requirements, and receive high school diplomas through formal adult education classes. Today, adult education is a vital part of our system of free public education, and in the immediate future its importance promises to be even greater.

The necessity of expanding adult education opportunities in our communities is dramatically supported in a recent issue of Focus, a publication of the National Association of Public School Adult Educators. In this publication, the following factors are identified which make adult education not only desirable, but an absolute necessity for economic survival.

1. America's 11 million adults who are functional illiterates find it almost impossible to learn marketable skills because they cannot read or write as well as average fifth graders.
2. Children whose parents have little respect for education or failedto complete a basic education themselves tend to adopt a disrespect for education. Under-education breeds under-education, and the problem is perpetuated.
3. Automation and computers are here to stay and will continue to force displaced workers to learn new skills. Workers displaced by automation must either be retrained for other work or placed on public assistance rolls. It is far cheaper and wiser to educate than to rehabilitate.

In light of the above facts, the economic plight of deaf persons is even more desperate. The following three points will illustrate:

First: At the 1963 International Congress for the Deaf, Dr. Marshall Hester, Superintendent of the New Mexico School for the Deaf, gave a report on the educational achievement of deaf students in day and residential schools for the deaf. In Figure 1, the achievement scores of school leavers during the 1961-62 school year are identified.

Grade Equivalent of Achievement Test Scores

	N	Range	Median	Mean	Range	Median	Mean
Graduates	501	16.0-23	19.1	18.8	3.1-12.8	8.1	7.9
Non-graduates	603	16.0-23.7	19.0	18.6	.9-10.5	4.7	4.7

Figure 1. Achievement test scores for 1104 school leavers 16.0 and up from 55 residential and nine day schools or classes in the United States during the school year 1961-1962.

Note that the average deaf student who terminated his education prior to graduation left school with fourth grade achievement scores. The average deaf student who graduated from the day or residential school had eighth grade achievement scores.

Second: In an article recently submitted for publication, Dr. Hans Furth, a psychologist at The Catholic University of America, and one of the nation's foremost authorities on language development of deaf children, reports on the reading achievement of deaf pupils. The scores and grade equivalents for more than 5,000 deaf students between the ages of 10.5 and 16.5 are reported in Figure 2.

Age	N	Mean Raw Score and S. D.	Mean Grade Equivalent	Median Grade Equivalent	Percent Scoring at Grade
10.5-11.5	654	12.6 (8.1)	2.7	2.6	1
11.5-12.5	849	14.9 (8.5)	2.8	2.7	2
12.5-13.5	797	17.6 (9.1)	3.1	3.1	6
13.5-14.5	844	18.7 (9.3)	3.3	3.2	7
14.5-15.5	1035	20.8 (9.3)	3.4	3.3	10
15.5-16.5	1075	21.6 (9.5)	3.5	3.4	12
Total (5254)					

Figure 2. Silent Reading Achievement of Deaf Pupils Compared to Grade Equivalent of Hearing Norms

Note that the median grade equivalent for the oldest group of students is 3.4 and, in the words of Dr. Furth, "the proportion of deaf pupils who currently reach a functional level of linguistic competence is approximately 12 percent."

Third: A comparison of the educational opportunities which America currently provides for its hearing citizens and those which it provides for its deaf citizens is most revealing.

For the hearing child who leaves school, either as a dropout or as a graduate, America has provided a wonderful network of schools in which he may enroll (usually without tuition) and continue his education even to the doctoral level: Universities, Four-Year Colleges, Junior Colleges, Trade-Tech Schools, Adult Schools and Public Secondary Schools.

Now compare this with the educational opportunities America has provided for the deaf students: Gallaudet College, State Residential Schools for the Deaf, and Public Schools and Classes for the Deaf.

For all practical purposes, the average deaf person today terminates his formal education as he leaves the public or residential school for the deaf at the age of 19 or 20, with achievement scores at or below the eighth grade level and with less than fourth grade reading comprehension! Is it any wonder that deaf persons as a group are under employed and living under the ever present shadow of economic insecurity as more and more of their traditional jobs are eliminated through automation?

In establishing a priority for meeting the educational needs of deaf persons, adult education must be given a high rating for the following reasons:

1. The philosophy of adult education is to accept students where they are and to offer them a second chance to acquire an adequate education. As has been shown, the majority of deaf adults are under educated and lacking in the essential language skills usually required for admission to colleges or technical schools. Adult education is the one program in America which offers some hope for these people.

2. Adult education programs offer a wide range of courses, extending from elementary subjects through apprenticeship training in vocational fields.

3. Adult education programs already exist in almost every community in America today and can be readily adapted to meet the needs of deaf citizens in any community.

Although adult education classes for deaf persons have from time to time been attempted in various cities in the United States, they appear to have been limited to classes in lipreading for deafened people, sponsored by the local hearing society, or to an occasional class in language. In reviewing the history of deaf education, there does not appear to have been any extensive or sustained interest in adult education classes for deaf persons prior to 1963

The present interest in adult education classes for deaf persons had its beginning in the spring of 1963 when the ten graduate students enrolled in the leadership training program in the area of the deaf met with a group of deaf adults in Van Nuys, California, and asked, "While we are in training at the nearby college, how can we best serve your group?" The response was, "We want an opportunity for more education." A survey was taken by the class to identify the subjects which would be of greatest interest. Those identified included English, Law, Economics, Current Events, Child Psychology, and Insurance.

To determine if the deaf community in this area would support adult education classes, it was proposed to operate a pilot program of classes to be held each Friday night for six successive weeks.

This pilot program developed as a heart warming example of community cooperation. The First Baptist Church of Van Nuys, through its Minister to the Deaf, Rev. Francis Fraize, provided the classroom facilities and coffee; teachers and interpreters volunteered their services, with participants in the leadership training program carrying a major share of the load. Women from the church provided cookies, donuts and sandwiches, and served the coffee in the social hour which followed the classes each week.

Teachers for these classes included one deaf person and four experienced teachers of the deaf, who taught by the simultaneous method of speech and the language of signs, and two teachers who conducted their classes with the assistance of interpreters.

An initial enrollment of 30-40 students had been anticipated, but 80 attended the first session and the attendance continued to climb, with enrollment reaching a peak of 142. Students came from 35 Southern California communities--with some driving as far as 180 miles per week to attend classes.

Following this six week pilot program, instructors and interpreters met in a conference to evaluate their experiences and to make recommendations for the future. A similar conference was held to get the reactions and recommendations of the deaf participants. Both groups were unanimous in agreeing that the pilot program had achieved its purpose and that the urgent need for adult education classes for the deaf had been demonstrated.

In the spring of 1964, a formal cooperative program of adult education classes for the deaf was established on the campus of the San Fernando Valley State College under the joint sponsorship of the leadership training program and Los Angeles City Schools, Adult Education Branch.

Eight classes were offered with peak enrollment of 189. In addition to classes in English, Economics and Law, classes were offered in Modern Mathematics, Sensitivity Training and Speech Conservation. A formal completion exercise concluded the ten week program.

In the fall of 1964, three classes were offered at the Reseda Adult School under the sponsorship of Los Angeles Schools. Classes included English, Economics, and Manual Communication, with a peak enrollment of 56 students.

This spring, classes are operating at three centers in the Los Angeles area. Nine classes operate at the San Fernando Valley State College, one at the Reseda Adult School, and four at the Carson Adult School in Gardena. Total enrollment is 151.

Interest in adult education is now spreading to other parts of the United States. In the fall of 1963, classes were established at Oakland, California, and in Hartford, Connecticut. Salt Lake City opened classes in the fall of 1964, and Minneapolis, Minnesota in the spring of 1965.

The classes operating in other cities appear to be facing many of the same problems as those operating in Southern California. From these classes, the following general observations and reactions can be drawn:

1. The success of any adult education program depends upon the active involvement and support of deaf persons from the community. These classes must be developed with and not just for deaf persons.
2. Adult education classes can be most successfully taught using the simultaneous method of communication (speaking and the language of signs) although successful classes have been held with the aid of capable interpreters.
3. The usual adult education requirement of a minimum enrollment of 20 students to justify a class is not realistic in most cities. An optimum enrollment of 15 students and a minimum of ten would be more realistic for most subject areas.
4. Until adult education can be viewed as an avenue to high school graduation and improved employment opportunities, it may be advisable to offer shorter courses of four to six weeks in subjects of vital and timely interest to deaf persons of the community.
5. Programed learning appears to offer considerable promise for adult education classes for the deaf in meeting the wide range of interests and abilities. Existing materials in the mathematics area appear to be promising, but materials will need to be developed to meet the special needs of deaf people in the language fields.

In conclusion, let me assure you that in three years of exploratory work in adult education classes for the deaf we have barely begun to explore the boundaries of this vast educational wasteland. We are painfully conscious that, for the majority of adult deaf persons, the feeble efforts we are making are both too little and too late! And yet the economic plight of deaf persons throughout America most certainly hinges on their ability to advance educationally. Leaders in the deaf community must look to you and to your counterparts in various cities in America to point the way in developing these opportunities. In the words of one deaf leader, the need for additional educational opportunities for deaf persons is necessary, urgent and immediate!

THE JOHN TRACY CLINIC PARENT EDUCATION PROGRAM

Edgar L. Lowell

The parent education program of John Tracy Clinic is based on a series of interrelated, and, we believe, self-evident propositions. They include: (a) that the major handicap of deafness is lack of communication, specifically, language and speech; (b) that, inasmuch as the eye is essentially a directional receptor, (that is, one must be looking at an object to see it), while the ear is essentially nondirectional, it follows that, when language has to be taught through the eye rather than through the ear, particular effort is required to present to the eye enough well repeated opportunities for learning to equal those normally available to a hearing person; (c) that these repititions can be most logically provided by the parents, who are with the child most of the time; (d) that parents are teachers whether they recognize themselves to be or not; (e) that learning takes place all of the time, and the young deaf child will learn from the parents regardless of what we do; (f) that, of equal or possibly greater importance than the development of communication skills, is the development of a healthy personality; (g) that parents also play a major role in the development of a child's personality; (h) that parents' ability to contribute to the development of communication skill or a healthy personality in the child is related to the parents' own adjustment and self understanding; (i) that parents can be helped to increased self understanding through appropriate psychological techniques.

This recognition of the basic importance of the role of parents in the development of a deaf child's personality and communication skills is the foundation stone upon which all of the clinic's services are built.

The clinic's services may be appropriately divided into those that are nationwide in scope and those that are primarily local. Perhaps the most well known of the national services is the John Tracy Clinic Correspondence Course, which at the present time has enrolled nearly 20,000 families. There are 2,210 families currently participating; the course has been translated into 17 languages and sent to families in 94 countries. It is distributed from the clinic in both English and Spanish. The correspondence course is a one year program for parents of children between two and five years of age and consists of 12 installments designed to provide parents with simple specific suggestiong of ways in which they can begin training in communication skills for their child. Each installment contains a report form that parents must return before receiving the next installment. Every report that is returned is answered with a personal letter, which takes up the topics on the report in order, discusses any problems, makes suggestions and offers encouragement.

In the beginning stages it is important for parents to learn how to talk, when to talk, and what to say. They must learn how concepts are developed, how vocabulary and language are built, how to help their child develop lipreading skills and to use whatever residual hearing he has. They must learn how to make and present interesting teaching material for children and they must learn how to motivate them. As Mrs. Spencer Tracy, our founder, has often said, "The deaf child must have a desire to talk, someone to talk to, and something to talk about." These are only possible when the child has a good listener and has had the opportunity for experiences that give him something to talk about.

We make no pretense that a single course can meet the needs of all parents of deaf children, but it appears that the correspondence course is, indeed, filling a genuine need, judging by the constantly increasing rate of enrollment. While the course may appear to be of greatest value to those families who live in localities where direct professional service is not available, it is also valuable to any parents as a source of information about the role that they alone can play. Most importantly, it offers families something concrete and positive that they can do to help their children.

In addition to the formal correspondence course, the clinic has a program of letters for mothers of young babies. It is apparent to us that deafness is now being discovered much earlier than formerly and that parents are being referred for educational help long before the child is two years of age.

Another national service is the Parent Education Film Series, consisting of a set of 19 educational (16mm, sound, black and white) films, and 19, 33 and one-third rpm recordings of 2[illegible] minute duration. These are available to groups of parents of preschool age deaf children. The films are in two sets: nine 10 minute films deal with the specific techniques of building communication skills with preschool age deaf children, nine others deal with the psychological problems of parents. One 20 minute film serves as introduction for both sets. A 20 minute record accompanies each film and serves to amplify the material in the film. Each record also introduces a discussion period. The films are most effectively used by groups that have a professional leader, but special printed material is available for use where a leader is not available.

It may give you some clearer idea of the content of our parent education program to describe the set of films concerned with development of communication skills. The first film contains an illustration of the way the ear works; a description of some of the terms used in describing hearing and not hearing; and an illustration of the influence of hearing loss on speech perception. The next describes the general process by which a hearing baby learns to communicate, and shows how this resembles, and how it differs from, the communication process of a child who is deaf. The third shows the beginning of lipreading: how a child's awareness of lip movements can be formed and utilized for the development of lipreading skills. The fourth introduces the techniques used in teaching specific lipreading skills, and offers suggestions for the selection of specific lipreading work. The fifth continues the description of specific lipreading techniques, and includes information on how it is possible to determine when a child has actually learned a word.

Number six describes the stages by which receptive language becomes expressive language, and shows how parents can encourage the use of spoken language. The seventh deals with some of the general techniques and methods that are useful in communication training for a young deaf child. Number eight describes the procedure for selecting and teaching the second lipreading word. The final film of this set describes the use of sight, touch and residual hearing in the multisensory approach to teaching a deaf child.

Over 5,000 families have participated in this program of films distributed through the clinic. In addition, 15 complete sets of the films have been leased by other organizations who are using them with an even greater number of parents.

Like all other services of the clinic, the distribution of these films for use by parents is without charge. To schools, clinics or other educational organizations there is a minimal charge of $40 for use of the 19 films and records.

Another national service of John Tracy Clinic is its six week summer program. Here both parents and child attend the clinic. The child is in nursery school and receives individual instruction while the mother attends classes. These include material on the development of communication, the philosophy of the nursery school, child development, and parent education and personality development, with emphasis on emotional growth. Parents have an opportunity to observe children in nursery school and in special teaching situations. They also have opportunities for individual conferences with the teachers and the psychologist. Mothers are required to attend, and fathers are urged to attend, especially during the sixth week, which is programed particularly for fathers. The content of this program is very similar to that of the Demonstration Nursery School offered by the clinic throughout the year, except that in the summer we give priority to families living outside the Los Angeles area. We regularly draw parents from all parts of the United States and from several other countries.

The summer program is one of our most successful and gratifying educational offerings. We attribute its success, in part, to the fact that most mothers are away from home, freed of routine housekeeping duties and other obligations, ans so are able to concentrate on the educational program. We also find that the concentration of an everyday program offers less opportunity for forgetting than the weekly schedule of classes offered during the regular year.

While the number of children between the ages of two and one-half and five that we can accept in this program is limited by the number of spaces available in our nursery school, the number of parents we can accept is unlimited.

As part of the summer program we also offer, through the University of Southern California, a six unit graduate course for experienced teachers of the deaf. It is designed particularly for teachers who wish to know more about the clinic's philosophy and practices with young deaf children and their parents. We also accept a limited number of persons working allied fields or those considering future specialization.

Because of our concentration on work with very young children and parents, the regular teacher training program that we offer during the academic year in cooperation with the University of Southern California has consistently drawn students from all parts of the country and so may be considered a part of our national service. This is a one year program which can be completed as part of the senior year or as the first year of graduate work at the University of Southern California. It includes work in language, speech, auditory training, audiology, psychology and teaching methods. Directed teaching is carried out at both the preschool and the elementary level. Completion of the course, in addition to fulfilling part of the requirements for the California State General Elementary Credential, also earns the John Tracy Clinic Certificate and the Certificate of the Conference of Executives of American Schools for the Deaf.

In a very real sense, the research and demonstration efforts of the clinic may be considered a national effort. In the past decade we have attempted not only to publish our research findings in professional journals but also to distribute them privately to insure widespread dissemination. Work on one US Public Health Service project with hard of hearing children led to the publication of a book, Play It By Ear, which is now in a second printing and is being used not only be teachers of deaf and hard of hearing children but also by teachers of mentally retarded and cerebral palsied children. Another demonstration project is a home teaching program for parents in which the instruction is offered in an actual home setting rather than in the traditional school or clinic. The objective here is to maximize the likelihood that transfer will take place if the learning environment is similar to the actual home situation. Although the services offered are essentially local, the project, because of both its educational and its economic advantages, has attracted considerable nationwide interest and is being emulated in several places at this time, and even more similar programs are under consideration.

An additional clinic activity, less known but equally important and time consuming, is to serve as consultant and advisor to other organizations wishing to establish parent education or preschool facilities. Since our purpose is to find, to encourage, to guide and to train the parents of young deaf and hard of hearing children, we consider it quite appropriate to share with other interested agencies the experience we have gained in some 21 years of operation. Although this program has no formal status, I hope that anyone who feels that the clinic might be of assistance will not hesitate to call on us.

As already pointed out, some of the services just described, while nationwide in scope, are also closely linked to other, essentially local, services.

The clinic's essentially local services include a consultation and evaluation program and a variety of educational offerings such as participation in the Demonstration Home Program mentioned earlier; in a weekly nursery school program; and weekly individual instruction or daily instruction in our four year Demonstration Nursery School. One of the more interesting services, the mother teaching program, is designed for those parents who are able to make the most use of all of the educational programs of the clinic. Here mothers come together daily and teach their own children under the supervision of one of our teacher training instructors. Not only is this economically efficient, but it provides the best possible training for parents who wish to learn more about teaching communication skills to their own children.

The backbone of the local parent program, however, is a three year course of evening classes for parents. These classes are divided into two parts: (a) instruction in the development of communication skills, and (b) help in handling the psychological problems that may arise out of having a child who is different. We find that the two parallel services are mutually reinforcing. If parents are so distressed at the discovery of deafness or are so concerned about the child's future that they cannot absorb the educational material offered in our communication classes, then all our efforts are in vain. Help in improving their own self understanding and their understanding of their child, however, frees them to operate effectively in the areas of communication development. Positive success in teaching the child reinforces both aspects of the program.

For these reasons we firmly believe that psychological classes and counseling are of critical importance in our parent education program. Moreover, we believe that in this area we do achieve considerable success much of which, undoubtedly, can be attributed to three factors. First, since our program is voluntary, we are dealing with those parents who are willing to make the effort to help their child and themselves and so are a highly motivated population. Second, we have the advantage of working with a group of people who share the same problem and, to a large extent, the same feelings; certainly, any feelings of uniqueness about being the parent of a deaf child are wiped out in such a group, and it is undoubtedly easier to talk openly about some of the more personal concerns, problems, and anxieties with a group of other parents who understand because they share many of these feelings themselves. A third reason why our group psychotherapy efforts appear to be more than usually successful may be that we are dealing with a select population in one other respect. Many psychotherapy groups are made up of people who are experiencing enough serious difficulty in adjusting to certain aspects of life to cause them to seek out professional help. Our parent groups are somewhat different. Parents of deaf children do not initially approach us seeking help for themselves; they seek help for their children. It is only after a considerable period of introduction that many of them are ready to begin the exploration of their own feelings and of the relationship these feelings have to the education and development of their child. However, once they have begun to do so, the same dynamic processes that are beneficial in a more typical psychotherapy group appear to work even better with these parents.

In these days of so much discussion about the separation of church and state in the operation of our schools, it might be well for all of us to give some thought to another, perhaps more important, separation in our current educational system; that of parent and child. I think it is fair to say that the general pattern nowadays is to keep parents out of the child's educational program. I remember quite vividly being asked not to help my child with long division because "they weren't teaching it that way any more."

The John Tracy Clinic parent education program directly contradicts this prevalent trend in American education, and, apparently, with some success. The success of our efforts with parents of deaf children can probably be explained in terms of the greater need for parental help when a language handicap is present. The growing evidence of the large number of children, particularly those from culturally deprived homes, who have a language handicap, whether associated with deafness or not, leads one to believe that parent education may, and should, play a much more important role in the future of all children, whether hearing or deaf.

THE DEAF IN INDUSTRY

Norman H. Silver

I want to share with you some of the employer's concerns in considering and hiring the deaf, as well as some of the obstacles the deaf job seeker faces.

My observations are a result of about four years of experience at Tektronix Incorporated where one of my major responsibilities has been in the area of suitable placement of qualified disabled applicants

For your information, Tektronix is an electronics manufacturing firm employing about 4,300 people, 21 of whom are deaf. During the last four years we have maintained between 20 and 25 deaf people on our payroll and have received a continuous trickle of deaf applicants at our employment office. So, you might say we are regularly exposed to a variety of deaf people, and if there is a most significant fact we have learned about them, it is that they can be quite complex. In fact, I believe it is practically impossible for a person to separate himself from his hearing experience sufficiently to generate adequate empathy for the deaf.

This is truly a complex subject, and, if you will pardon the analogy, I have concluded that trying to discuss the deaf in industry in 20 minutes is like trying to write a short story on the affairs of Elizabeth Taylor.

Even the trained, well adjusted deaf person will meet some difficulty in his search for employment, but eventually he will probably find suitable placement. Unprepared and inexperienced deaf job seekers can expect to face great difficulty though, especially in light of gross misapprehensions the majority of the public at large has about deafness. Many people, including some prospective employers, variously regard the deaf as uneducable, idiots, comics, as being odd and retarded to name a few labels. Labeled with such stereotypes, it is no wonder that even the best qualified deaf job seekers sometimes have trouble finding employment.

To help destroy misapprehensions about the deaf, I feel there should be more preparation in the schools to help them face the challenges in the hearing society in which they must learn to exist. I am aware that many schools for the deaf offer a variety of vocational training, but despite these constructive efforts, many deaf people are deficient in basic preparation, which I will discuss in a moment. In addition to an inability to properly apply for work, many deaf applicants are unqualified for entry positions in trades for which they were supposedly trained. Certainly there is something to be learned from any type of vocational training, but I submit that a system of continuous updating of vocational training programs will be necessary to insure maximum success in preparing deaf young people for modern jobs.

Unpreparedness becomes apparent to the potential employer in many ways. For example, frequently a deaf applicant will approach our employment receptionist with a hearing relative or friend to serve as adviser or interpreter. He is unaware that by doing this he is, from the outset, putting his self sufficiency in question. In such cases, the employer will probably wonder, "How dependent would this person be on other employees if he were hired?" Though it is understandable, this practice is definitely not advisable and the deaf should be taught the importance of the "self sufficiency image" when searching for employment.

Another noteworthy point, I feel, is that we find many deaf applicants for employment unable to adequately complete an application form. Many prospective employers are not familiar with the normal problems the deaf have with verbal usage and would normally look upon a deaf person's application as being incomplete and sometimes incoherent. The problem, of course, is a result of the deaf individual's reading difficulty and his inability to define terms normally used on employment applications. His inability to properly complete the form only enhances the unaware evaluator's impression that the applicant is mentally slow or generally substandard.

The need is for early and realistic preparation, and this, I feel, can and should be accomplished in the schools. Job hunting techniques could be taught to those about to graduate from schools for the deaf and special education programs for the deaf. Such a course could include: how to dress, how to present oneself to a receptionist, how to complete an application, how to write a resume and how to present it. If the individual lipreads, he should demonstrate this ability as soon as practical. The resume can be used as an excellent introductory device for the deaf applicant by including an initial statement explaining he is deaf and looking for work followed by personal data, education and vocational training, work experience, hobbies and interests outlined in a neat, intelligent and concise manner. Practice in writing resumes, completing application forms, and interviewing would be important aspects of such a course. It seems that with this type of training to supplement vocational training, more deaf young people would find success when they start job hunting.

Naturally, people with appropriate training and experience will usually be given preference for available jobs. There are frequently jobs available, however, which require only good basic aptitudes, good references, and desirable personal characteristics. As an aid to uncover potential in applicants, most larger companies administer intelligence, aptitude and appropriate job knowledge tests. For the deaf this could prove to be a defeating experience. They would normally have trouble understanding standard test instructions and could be expected to have great difficulty handling reading requirements of some tests. We give the deaf special consideration when they are tested at Tektronix, to insure that they understand what is expected of them, and to make certain they are not given any unreasonable tests. For example, in administering tests to the deaf we provide index cards outlining the test instructions in very simple language. In addition, a psychometrist carefully shows each deaf applicant how to perform the tests and observes as he follows her example. She will not start a test until she is reasonably sure that everyone, including any deaf people in the group, understand what they are expected to do. Since many companies will probably not offer such special consideration, whenever possible, deaf students and job seekers should be made aware of this potential hurdle so that when they are confronted with tests, they at least will not be caught completely off guard. Schools should expose graduating students to personnel, aptitude, and job knowledge tests to better prepare them to cope with preemployment testing. The less experience or training an applicant can offer, the more the large employer will tend to rely on test scores to help determine his hiring decision.

Frequently in his search for employment, the deaf person will be confronted with an employment interview. It will be quite unusual if a deaf person finds himself in an interview where the interviewer uses sign language. I think, however, if the employer has been understanding enough to bring the deaf applicant to the interview stage, he is probably being quite objective and is probably making a sincere effort to evaluate those attributes in the individual which will be compatible to jobs in his company.

During an employment interview, the deaf applicant can expect the interviewer to go to great lengths in his attempts to evaluate his ability to communicate. He will probably spend some time facing the applicant directly, speaking naturally, and enunciating clearly to find out how well he reads lips and how well he can respond. He will write notes varying in complexity to see how well the applicant understands the written words and how coherently he responds in writing. He may also go so far as to attempt to communicate in improvised pantomine carefully evaluating how well the deaf applicant catches on to the improvisation and how well he might respond. The interviewer may also note voice characteristics. Many deaf people can talk to some degree. Some understandably talk quite loudly, others may whisper. Some make guttural noises. A particular voice characteristic may or may not be compatible to certain jobs. An interviewer might also carefully evaluate speaking capacity to help determine suitability for placement in available jobs. The interview can be a very strenuous experience for the deaf applicant. The naturally bright, well adjusted person will usually fare quite well, but many more could be taught to meet this test successfully through preparation in the school. In well planned sessions, graduating students could be informed as to what to expect in employment interviews. Realistic role playing situations in the classroom could also provide students with a beneficial awareness of what they might face in job interviews.

When the deaf applicant is finally placed, he finds new aspects of adjustment with which he must cope. We try to facilitate adjustment by consulting with the supervisor of the group in which the deaf person will work to help him and his employees prepare for when the deaf person joins them. We have found that without exception, supervisors and co-workers of deaf employees make every effort to make them feel comfortable and help them adjust.

An initial problem usually develops in trying to train the deaf employee for his new job. Considering the time it takes to develop a workable system of communication between the job trainer and the employee, one can usually expect a longer training period for the deaf than would normally be expected for a hearing person. Let me add here that, at Tektronix, the extra time invested in training has paid off in productive, reliable, and satisfied deaf employees.

A very high percentage of our deaf employees has been and is successful. For some, however, the adjustment to close association with hearing people is too great an adjustment. We find that the deaf as a group tend to be sensitive and suspicious of their associates, and that at times they believe themselves the object of ridicule. This tendency can and does, in some cases, become severe enough to cause significant problems. During the past three years it has become necessary for us to terminate three deaf employees for basically this reason. All three of these people were bright and intelligent with proven ability to do a good job; however, in their own ways they each developed feelings of persecution, sporatic work habits, and miserable attendance records. Two of these people developed what was believed, at that time, to be psychosomatic illness. Doctors could find no medical basis for their somatic complaints and short term counseling efforts were not productive. The illnesses were conveniently used as reasons to stay away from work. They would usually make no attempt to notify their supervisors on the days they were going to be absent. The other employee arbitrarily took days off without asking his employer's permission and would eventually show up on the job as if nothing had ever happened. All three were frequently late as well as absent. The one major thing they all had in common was that, none at the time of their termination seemed to have any idea of an employee's responsibility to his employer. It is, of course, difficult to say whether or not these incidents could have been avoided had the employees been taught desirable work habits and the fundamentals of employee-employer relationships in school. It was apparent, though, that they had no concept of employee responsibility or common courtesies that most hearing people take for granted. Though there are definite problems and potential problems unique to deaf employees, I am happy to report that in comparison to the three failures I just mentioned, most of our 21 deaf employees are competing very favorably with their hearing co-workers.

In summary, I contend that preparation is the key to productive lives for the deaf. The deaf must work hard to overcome the communications barriers, misapprehensions, and other difficulties peculiar to those who live in a world of silence. It seems to me that the deaf adults of tomorrow will certainly have a better chance to compete and adjust in a hearing society with realistic preparation in the schools.

A NEW APPROACH TO EDUCATIONAL AND VOCATIONAL GUIDANCE FOR THE DEAF

E. Ross Stuckless

The topic to which I have been assigned is "A new approach to educational and vocational guidance for the deaf." I welcomed this topic because it has forced me to convert a number of reservations about our educational structure for deaf children into a more positive orientation toward progressive action. I must admit to remaining a trifle uncomfortable with the word "new."

Unlike the old adage pertaining to complaints about the weather, I believe there are a number of things we can do about the guidance of the deaf.

But first, what is guidance? Guidance has been defined as "the help given by one person to another in making choices and adjustments and in solving problems." We note in this definition that guidance is not direct decision making, but assistance in that process. The free choice remains that of the person being assisted. We note also that within the context of this definition, the teacher has a major role in the guidance of his student. Sound education and guidance are at times indistinguishable and certainly inseparable. Some of the most effective guidance given to the deaf student, and indeed in many programs for the deaf, the only systematic guidance given to the student is provided by the teacher.

However, the teacher of the deaf cannot be expected to carry the full weight of the guidance of deaf students. The teacher lacks the time, the resources, and the competencies of the guidance counselor to do so.

There is no need to remind you of the changes taking place in our increasingly complex society. As a function of extended education, its individuals are increasing in sophistication; its economy continues to require greater and more adaptive vocational skills; and regardless of our approval or disapproval, even its value systems are undergoing change.

As educators of the deaf we can no longer look to the five or six basic trades with which the deaf have in the past tended to identify as fully serving their vocational needs and interests. Neither can we be satisfied with an elementary education for our deaf student; his neighbors will be college graduates. Our students will be increasingly confronted with social and economic issues, many of which will require consequential decision making. Educational and vocational guidance must assume an increasingly prominent role in our services to deaf students.

To maintain and improve quality in education of the deaf requires that we engage in continuing self evaluation, to be followed by change where deficiencies exist.

A single question lies at the heart of the education of deaf children. Stated simply, where are we taking them? What are our objectives? Certainly the objectives of education of the deaf are not to be found solely in articulation skills or in a grade achievement level. Nor do they rest simply in communication skills. Our objectives must go a step beyond to the deaf adult in a societal context. Our ultimate objective should be to assist the deaf student in such a way that he can step out into society as an adult prepared to adapt himself to its demands, and accept its benefits, no favors asked. Admittedly, this objective is quite unattainable for many deaf students. Nevertheless, we must maintain such an objective or run the risk of complacency and mediocrity in our teaching.

As a footnote, it might be added that research on the adjustment of the deaf adult is extremely meager in quantity. We must study the deaf adult in society, searching for deficiencies in adjustment, both social and vocational. We should then be prepared to reexamine our school curriculum and make appropriate changes. Many educators of the deaf believe such a deficiency exists in employment of deaf people. This is substantiated by recent research. If this be so, it becomes our responsibility to effect change in the young deaf person's preparation for employment.

In the recently completed investigation of the occupational status of young deaf adults in New England, we were told by employers that their deaf employees were basically good workers. Yet many commented on the social naivety of these same employees. To cite an example, several employers mentioned that their deaf employees had a habit of asking others, including their employers, what their income was. One may write such a deficiency off as an example of the candor of deaf people, or one can systematically build social skills into the curriculum of the school. Indeed, I believe social training to be essential to the education of the deaf child. We cannot leave it to incidental learning; nor should we assign the full responsibility to the home. The residential school in particular has a major responsibility for establishing a climate outside the classroom conducive to the development of social skills.

Our energies in educating the deaf student, and in particular in providing him with functional communication skills, must be directed toward the objective of preparing the socially and vocationally well adjusted adult. Yet I would guess there are trained and experienced teachers of the deaf in this country who really do not know a deaf adult. How clear can their objectives be?

It may appear as though I have, to this point, been skirting the issue of educational and vocational guidance. Yet I believe these problems to be the basic substance of guidance.

Guidance carries with it a major responsibility. Therefore it should not be left to chance. In earlier periods in the education of the deaf, there was a tendency for teachers to be all things to all students. We have now entered an era of specialization which is made possible and necessary by the tremendous increases in bodies of knowledge. The teacher is no longer audiologist and psychologist. The body of knowledge in guidance counseling has kept pace. The teacher cannot hope to be familiar with the increasing repertoire of tests now available to the counselor nor skilled in their administration. Depth of knowledge in job descriptions and employment trends are also outside the expected domain of the teacher.

I have spoken of the need for clarity in our objectives; I have suggested that guidance should be directed toward these objectives; and I have stated that guidance should not be left entirely in the hands of the teacher.

I would like to turn now to the matter of flexibility. Appropriate guidance cannot operate effectively in a lock step program. In such a program, little decision making is called for in the student. If the curriculum permits no flexibility, if the vocational training offerings are restricted, if all boys or girls must join a single social group or other extra-curricular activity, the student has little decision making to do. Guidance is meaningless.

We must give greater recognition to individual differences. We must encourage the highly able deaf student; we must provide new and improved services for the less able; we must be prepared to encourage or discourage the deaf student who wishes to be a dentist rather than a printer, not on the basis of precedence, but on the basis of ability, motivation, and interest. We must be prepared not only to accept hearing impaired children who have met failure in regular schools, but also to give up to the regular schools those of our students who stand to gain. This should apply equally to elementary through higher educational levels. The guidance counselor can work effectively only in such a climate, and can do much, with administrative support, to foster such a climate. Often he will be a gentle needler, reminding colleagues of their objectives.

I would like to speak for a few moments about the relationship between the guidance counselor in the school for the deaf or in the school system if we think of day classes for the deaf, and the vocational rehabilitation counselor. The services of vocational rehabilitation are constantly expanding and must be considered in the guidance of the deaf student. Vocational rehabilitation services are available to students of 16 years and over. There is a need in most states for better articulation between school and vocational rehabilitation. Vocational rehabilitation agencies should be appraised of vocational interests and aptitudes of older students since they will assume the responsibilities of guidance of many students upon graduation.

I recently had the opportunity to observe an excellent example of coordination between school and vocational rehabilitation services at a residential school for the deaf here on the west coast.

Local rehabilitation districts in that state are alerted to the fact that a student soon to graduate has his home in that district. A rehabilitation counselor from that district is invited to an Institute extending over several days at that school. During this time, the 20 or 30 counselors who may be expected to service the graduates are oriented to deafness, meet the students who will be their clients after graduation and discuss vocational interests, opportunities, and additional training possibilities with them. The counselor's interest in the student is naturally increased, he can begin the counseling process, and the student is given assurance that he can look forward to continuing support during that adjustment perio which will follow graduation. The guidance counselor in the school for the deaf, and the rehabilitation counselor can together assist the graduating student in buffing this period of particular stress.

Parents also should be drawn into the guidance of deaf students. For many parents of deaf students, the two or three years prior to graduation produce increasing anxiety. It is vital that parents be informed of the student's vocational potential, and that they participate in the planning for, and support the objectives of, the deaf student.

By way of summary, the following are principles to which I believe we must adhere if we are to offer appropriate guidance to the deaf student:

1. Be goal oriented in our guidance of the deaf, bearing in mind that objectives extend beyond the student in school to the deaf adult in society.
2. Maintain before us the overt recognition of individual differences in ability among deaf students, and build flexibility into the school curriculum, and admission and transfer practices.
3. Provide the student with information on a wide range of vocations and provide the student with the opportunity to follow a career choice based solely on his ability, motivation and interests.
4. Recognize the need for establishing social skills in deaf students, and systematically guild such training into the school program.
5. Coordinate school vocational guidance services in the school with those of vocational rehabilitation agencies, and draw upon the services of vocational rehabilitation considerably before the student departs from the school.
6. Recognize that parents play a vital role in the guidance of the deaf child, and involve them in the guidance of students.
7. Educational and vocational guidance should be systematically built into the school program.
8. Guidance counseling is a specialized and important service in the school and as such warrants specially trained personnel for its conduct.

I might add that the federal government is presently supporting the training of guidance counselors with the same vigor as the training of teachers of the deaf. Financial and training resources are now available throughout the country.

In closing, I wish to add that in order for educational and vocational guidance to work effectively, the school must have a real commitment to maximum attainment for deaf students. This is not as easy as it sounds, and may in part explain why I am in higher education rather than in school administration.

Education of the deaf must remain in harmony with social and economic change. As educators of the deaf, we must adapt to these changes. The price is too high for us to risk graduating students who are alien to social and economic conditions in a dynamic society.

THE AMERICAN HEARING SOCIETY

Harold N. Williams

The American Hearing Society is a nonprofit organization that is composed of 170 member organizations throughout the United States. The Society functions under a representative Board of Directors and maintains offices in Washington, D.C. Support from United Funds throughout the United States paid either directly to or through a participating agency accounts for a little more than 60 percent of the Society's budget. Earnings on interest, fees received for service, sales of publications, and independent and corporate contributions make up the rest of the Society's income. The Society conducts no independent fund raising campaign.

The American Hearing Society does provide some direct service to individuals, although this is not their main function. Individual services include such items as: (a) Serving as a referral agency for individuals who write in regard to where services are available; (b) Providing information on request of individuals of the nature of various communicative disorders; and (c) Through the cooperation of the hearing aid industry, has provided needy individuals with hearing aids, they being distributed through the Society's affiliated agencies.

The organizations affiliated with the American Hearing Society provided diagnostic, rehabilitative, and counseling service to over 300,000 individuals in 1963. Affiliated organizations have also received, through the Society, audiometers and funds for expansion of services. As a result of receiving grant money, the Society has been able to develop, on a demonstration basis, two new speech and hearing centers in the United States, and to demonstrate what can be done through community cooperation in other areas.

In the field of publication, the Hearing Society publishes the Hearing News and the AHS Bulletin Board. Hearing News features articles on all types of communicative disorders and consequently, is of specific interest to parents of handicapped children. The Society also makes available many pamphlets and brochures that deal with the various aspects of diagnosis and rehabilitation of the communicatively handicapped. Through the efforts of the Society, a film entitled "The Glass Wall" has been made available to organizations for their use. It deals with the rehabilitation of the hearing handicapped. Film strips and other public education material have also been made available to affiliated organizations for their use.

The American Hearing Society provides direct consultation to its affiliates through field visits and surveys. Organizations are also provided guidance in administration, community planning and professional concerns. It is the only organization that provides direct service to communities, and that concerns itself with the administrative aspects of community service programs.

Affiliated organizations of the Society are autonomous and, consequently, provide a great breadth of service. Program emphasis runs from social case work and social rehabilitation, to professional training and strict clinical service. For example, the San Francisco Hearing Society primarily serves as a case work agency; the Chicago Hearing Society is concerned with social rehabilitation and provides a very comprehensive program for integrating children into community social recreational activities; the main concern of the Speech and Hearing Clinic at Auburn University in Auburn, Alabama, is training individuals to participate in the profession; whereas, our own clinic in Augusta, Georgia, serves primarily as a community diagnostic and treatment center for the communicatively handicapped.

I have been asked to provide specific examples of how some of the Society's affiliated organizations work directly with deaf youngsters and their parents. Many of the organizations provide preschool classes for deaf children and a few classes on the elementary level. The Bill Wilkerson Speech and Hearing Center in Nashville, Tennessee, and the Cleveland Hearing and Speech Center in Cleveland, Ohio, both provide preschool classes for the deaf and provide counseling programs for the parents of the children, who are enrolled in said classes. The New York League for the Hard of Hearing has a very strong parent counseling program and does provide a complete guidance service for them. Some of the organizations stipulate that a parent must spend so much time observing children in class, participate in the actual teaching program, and/or attend regularly scheduled classes for parent education.

INTERNATIONAL ASPECTS OF SPECIAL EDUCATION

OPPORTUNITIES FOR TEACHERS ABROAD SPONSORED BY THE FEDERAL GOVERNMENT

Romaine P. Mackie

Every day, our mass media remind the American public that the world is filled with chaos and conflict or marked with order and peace. It is refreshing to turn our attentions away from transient disasters and achievements to focus attention upon the firm, enduring strides toward international unity and understanding accomplished by our government with foreign countries. This is a shrinking planet when an American teacher from a small town or urban school system, an instructor from a college or university works with students, members of his own profession, and citizens of a European school, in an Iranian or African tribal village, or in a South American peasant community. When a teacher enters a school in Jakarta or a principal joins a seminar in Bombay, misunderstandings are dissipated as men focus upon a common goal--the education of our world's children. The United States Government has taken vigorous steps in this direction, sometimes complementing programs established by private organizations and foundations, sometimes introducing new programs which are designed to further international cooperation.

The variety of federal programs offering teaching opportunities abroad are the product of combined efforts. Private organizations and foundations have joined with Congress and the executive branch of the government to establish programs administered by the state department, in collaboration with the US Office of Education, which also coordinates their efforts to fulfill the need for teacher requirements for aid and technical assistance projects.

Limitations of time, along with the complexity of programs, have focused this presentation upon a selected number of programs which offer opportunities to American teachers abroad.

Mutual Education and Cultural Exchange Programs-Fulbright Programs

The Mutual Educational and Cultural Exchange Act of 1961 broadened the scope of teacher opportunities abroad and consolidated various acts and existing programs under the direction of the state department. Though the Act is administered by the US State Department, the US Office of Education directs and carries out the teacher exchange program for the Department. Supervision of the program is under the Board of Foreign Scholarships, a 12 member group of experts in education and cultural affairs, appointed by the President. To qualify for the four kinds of foreign assignments established for teachers by the Act, one year research or study projects, teacher interchange, one-way assignments, and summer seminars, the candidate must possess American citizenship, at least a BA degree and several years of teaching experience.

For the elementary or secondary school social studies or modern language teacher, there are 25 grants to individual countries (unspecified in the literature) for one year's study or research at a foreign university. Outstanding faculty members, who already are or might become supervisors of social studies or language programs and have taught for five years are eligible to receive a grant that will cover the cost of transportation and baggage to and from the destination, a maintenance allowance, educational materials, tuition and fees, and a $100 monthly allowance for each (up to and including four) dependent.

Under the Teacher Interchange Program, elementary and secondary school teachers are offered the opportunity to exchange positions with teachers in foreign countries. Most exchanges carry a maintenance allowance, as well as round trip travel fare between home and foreign post. Three years of full time teaching experience are necessary for the teacher involved with the interchange program, as well as the one-way assignments, which also carry maintenance and transportation allowances.

There are 216 teaching opportunities in 1965-66 located in 31 countries, representing each of the world's continents, in the combined interchange and exchange programs. Five more countries are expected to have several grants available, increasing the scope and coverage of the projects set up under the Mutual Educational and Cultural Exchange Act.

The Office of Education usually has three to five positions for teachers in special education fields in the United Kingdom and possibly Australia each year. Teachers in these fields should apply to our Teacher Exchange Section between September 1 and October 15 for opportunities available for the following year.

The summer seminar program offers 335 teachers the opportunity to visit 13 countries to enhance their knowledge of the host country's language and civilization. The candidate who wishes to qualify for the many summer seminars which occur each year throughout the world must be either an elementary, secondary school teacher, or college instructor who has successfully taught the language area studies of the country or region he wishes to visit. Transportation, tuition and fees are paid to the successful candidate, who is generally requested to leave his dependents at home. Living expenses, during the summer abroad, however, must be borne by the teacher.

NDEA Institutes for Advanced Study

The National Defense Education Act of 1958 as amended by Title XI in 1964 offers the elementary or secondary teacher of modern languages the opportunity to attend language institutes within the United States as well as abroad. The Commissioner of Education is authorized to establish by grant or contract, the institutes which are to be held at colleges or universities, the purpose of which is to acquaint the modern language teacher with a knowledge of reading and writing, literature, civilization, and new methods of teaching Spanish, French, German, Italian, Russian, Chinese, Japanese, Arabic, Modern Hebrew, and English as a foreign language.

The necessary qualifications for the applicant are: (a) a BA degree or its equivalent; (b) some teaching experience, or in some cases the ability to meet state certification requirements; (c) the intent to teach or to continue to teach the modern foreign language or English as a foreign language in elementary or secondary schools. Of course, the candidate for the 748 openings in the 14 seven to ten-week summer foreign institutes must have previous preparation or commensurate experience in the language to be studied. The booklet entitled NDEA Institutes for Advanced Study lists the names and addresses of the directors of specific language institutes to whom inquiries and applications should be addressed. A candidate accepted into a program receives $75 a week plus $15 for each dependent. Although tuition and fees are defrayed by the program, the student must pay his own travel expenses.

US Information Agency

There is a widespread need for English teachers in binational cultural centers in Latin America, The Near and Far East and Europe. Administration and personnel openings comprising the positions of leadership are also available. For further information describing programs and requirements, write to Chief, Personnel Services Staff, Office of Personnel and Training, US Information Agency, Washington, D.C. 20547.

Military Installations, Zones and Territories

Since the end of World War Two, the defense commitments of the US Government have dramatically increased the short or long term teaching opportunities for professional educators in foreign lands. These so-called overseas dependent schools, devoted to educating the children of military personnel attached to Army, Navy, and Air Force installations, absorb the talents of more than 7,500 teachers and administrators, who serve the educational needs of over 160,000 children. An applicant who is an American citizen possessing a BA, 18 hours in education with two years teaching experience, is advised to contact the Department of Defense, Director, Dependent Schools Division, The Pentagon, Washington, D.C., for further information concerning locations and wage scales.

Further teaching opportunities are obtainable for educators on every level from kindergarten through junior college and college in the Panama Canal Zone. Fifteen hours of education are required for teachers on the elementary school level, while these 15 hours, plus a masters degree in the subject area are necessary for positions on the high school and junior college level. Doctorates are preferred for teaching positions within the college. The salary schedule ranges from $6,250 to $11,760. The candidate can clarify his economic status and existent opportunities by writing to the Personnel Director, Panama Canal Company, Balboa Heights, Canal Zone.

There is a demand, moreover, for teaching personnel located in outlying territories in the Pacific and in the Virgin Islands. The prospective teacher can obtain pertinent information concerning positions by writing to Director of Personnel, Pago, Pago, American Samoa, 96920; Director of Education, Government of Guam, Agana, Guam; Personnel Officer, Trust Territory of the Pacific Islands, Saipan, Marigna Islands; Miss Jane E. Tuitt, Commissioner of Education, Charlotte Amalie, St. Thomas, Virgin Islands.

American Sponsored Schools Overseas

Separate and distinct from the American dependent's schools sponsored by the Department of Defense are the American sponsored schools overseas which receive aid and assistance from the Department of State. In more than 120 countries throughout the world more than 23,000 Americans and 18,000 children of other nationalities attend these schools with curriculums which range from kindergarten through the twelfth grade. Financial support for the multipurposed schools which are nonprofit independent community schools with elected boards of education, established along the same lines as schools within the United States, comes from both public and private sources. The bulk of the financial support as well as the definition of educational objectives, however, was established by a series of legislative acts beginning in the early 1940's, which assigned financial and other responsibilities for assisting the schools to gain educational parity with schools in this country. One of the State Department's objectives is to serve the purpose of increasing mutual understanding between the people of the US and the people of other countries by serving as demonstration centers for educational methods and practices employed in the United States. Thus, students from the host country as well as other foreign nations are enrolled when feasible with the children of government employees and private American citizens. Dr. Phyllis Warren, Director, Personnel Services, International School Services, indicates that there are approximately 300 openings for teachers in these schools whose student bodies range from less than 20 to more than 1,000 students. Further information focusing upon teacher requirements and school conditions may be obtained by writing to Dr. Warren at International School Services 2000 P Street, N.W., Washington, D.C. 20036.

US Agency for International Development

Increasingly the US Agency for International Development, as a part of the State Department, has recognized the significant relationship between education, and economic, social and political development. An awareness that educational specialists can assist the people of the underdeveloped parts of the world to alter the conditions of their past has led to a variety of programs aimed toward assisting new nations to help themselves construct modern societies. Thus, there are many opportunities for educators well versed in technical knowledge and who have experience in the education of teachers.

Programs are already underway in the Middle, Near and Far East, Africa, and Latin America. Descriptive materials and application forms may be obtained by writing to the Technical Assistance Branch, Bureau of International Education, Office of Education, US Department of Health, Education, and Welfare, Washington, D. C., 20202.

Peace Corps

New challenging educational opportunities have opened through the Peace Corps, which has introduced educational programs in 33 host countries to the South and East-in Latin America, Asia, and Africa. Over 5,000 positions are available each year in these developing countries, many of which have not yet instituted well rounded educational programs that meet the needs of every child. The greatest demand is for teachers of English, social science, math and science, along with physical and vocational education. A US citizen in good health who has no dependents and possesses a BA or higher degrees is eligible for the two year commitment and can obtain further information and questionaires by writing: Experienced Teachers Program, Peace Corps, Office of Public Affairs, Washington, D.C., 20525.

Conclusion

As these federal government programs suggest, the opportunities for the elementary, secondary and college teacher to do research, to study, and to teach abroad are many and diverse. The teacher who is well prepared in her own field with and sometimes without a foreign language and area studies background and who is adaptable and flexible can work in modern countries or newly emerging ones, in rich nations or poor, ones with African, Middle Eastern, Asian or Western heritages. Oftentimes narrow, unrealistic provincial points of view give way to broad realistic cosmopolitan attitudes as men and women are offered the opportunity to reshape their ideas under the impact of a new land and different society. In any case, it is clear that the US Government is making steady advances in introducing teachers into the world community. It is our opportunity and responsibility as citizens to further such efforts which assist educational programs abroad and strengthen our own schools and teachers at home.

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SPECIAL EDUCATION IN CANADA: PROGRAMS, ISSUES AND PROBLEMS

W.J. McIntosh

The best survey of special education in Canada is found in the book published in 1963 and written by Dr. Samuel R. Laycock. Dr. Laycock not only describes in some detail what has been and is the present program but undertakes to prognosticate trends. For a more complete description of our program I refer you to the book, Special Education in Canada by S.R. Laycock, published by W.J. Gage, Limited, Toronto.

The Special Classes Act of 1910 was the first legislative stirrings of special education in Ontario. In 1914, Dr. Helen MacMurchy, a medical doctor, was the first appointed part time Inspector or Superintendent of Auxiliary Classes as they were called. The first courses in teacher training began in the summer of 1916. The first teacher organization began as a section of the Ontario Educational Association in 1922. The first publication called The Bulletin appeared about the same time and was one of the earliest publications in special education on this continent. It is now known as Special Education in Canada and goes to all CEC members across the country.

History and statistics may give background, but it is too time consuming for this paper. Special education in Canada has been strongly influenced by United States thought and practice. Our border is easily crossed by the press, television, and radio, and we watch what is happening south of the border. Our students attend US colleges for graduate training and we send teachers for training to your summer courses. However, there are a number of practices we consider different and which may be of interest.

Teacher training for special education classes in Ontario is limited to a program lasting over three summers of study with options in the various areas of specialization. To qualify for these courses, a teacher must have a teaching certificate as a graduate of one of our Teacher Colleges and have at least two years teaching experience in the regular grade classrooms. We believe this experience in the regular grade classroom is necessary to provide a basis upon which to build an understanding of the differences and needs of the atypical child. It provides a more ready avenue for integration of the special program with the total program of the schools. Thirty years ago we had 66 teachers enrolled in the summer courses. Last summer 1,104 teachers were taking these courses.

Another area of difference is in the financial structure of school support. In Ontario, the province or state has a grant structure. From a school budget in 1964 of 33 million dollars, the state grants amounted to over eight million dollars in the township of North York. This included a library grant of $43,000, a textbook grant of $233,000, a transportation grant of $29,000 and an equalization grant of eight million dollars. The balance of $23 million was budgeted by an elected board of education and submitted to the civic council for collection. The civic council must accept the board of education budget and collect the necessary taxes. In Metropolitan Toronto the $23 million was divided between the Metro Council who raised ten million and the local council who raised the remaining 13 million. In special education extra state grants are made for special classes, e.g., the average daily attendance for a hard of hearing class is multiplied by ten when calculating the per pupil grant.

Growth in the education and care of the retarded or trainable child has grown rapidly due to parent association efforts. In Ontario there are 90 schools in operation. The Provincial Government provides liberal grants and supervision as well as teacher training courses. At the present time, steps are being taken to supply training for the children at an earlier age. There are at present 25 nursery classes in operation throughout the province. Work with the adult group is receiving special attention as a contribution to the centenary celebration of the birth of our country. Ontario now has 35 adult training centers but needs many more.

The educable retarded are provided for at three levels in the elementary schools. The primary classes care for the seven and eight year olds; the junior classes for the nine and ten year olds and the intermediate classes for the 11, 12, and 13 year olds. The maximum enrollment for a primary class is 12 pupils and 16 for the other two. The teenager attends a special vocational school, of which there are eight in the Toronto metropolitan area. These schools provide a three to four year course of training mainly for work preparation in the service industries. Since I know the program of our North York Vocational School best, I will outline it briefly. The philosophy of the school is based on student growth and development rather than on a subject centered curriculum. What happens to the child within the total program of the school is an important concept. He is encouraged to improve his self-respect, his self-concept and to experience success while recognizing his limitations. He learns to work well with his classmates, and to be a neat, careful, responsible man or woman.

The academic program begins at the child's level in the basic subjects of Language Arts and Mathematics. Science and social studies, health and music, physical education and sports, arts and crafts are planned to meet immediate and projected needs of these children.

The increasing substitution in industry of machines for hands, the obsolescence of traditional skills, the development of new processes and kinds of employment, the mobility of employment and of persons all make it desirable for the school to stress broad fundamental training in industrial skills and knowledge. We feel it is better for the pupil to acquire vocational versatility than to be narrowly specialized.

For such reasons, the family of occupations concept is superior to the unit shop plan in organizing a school. The grouping of related occupational fields such as the building trades or the metal trades or allied arts, with a team of teachers working together, makes possible the development of a broad understanding of the whole field without denying the importance of fundamental skills. It produces an individual equipped for adaptation to change. Each family area embraces a number of related trades or skills and leads to a variety of employment opportunities.

In his first year, the student is rotated through several family areas so that he may better select his future career while developing a broad general foundation for good craftsmanship. In his second and third year more specific skills may be acquired in one family of occupations with a narrower specialization and refining of skills and knowledge. A family area may be horticulture, landscape gardening, and janitor work. The resources of the whole school and grounds are used.

A work study program in the final year provides experience in industrial and commercial situations. The school has found employers cooperative and in the past winter 66 students have been placed in this program. The work period lasts from two weeks to a month with the afternoons spent in the school. The school and employer work closely together and the student receives no wages during this period of training.

Many of the pupils in these special vocational schools have met failures so often that they have, in many cases, become antagonistic to authority, lost self-respect, and developed poor work habits. This type of school can rebuild morale and produce good habits and attitudes. It does make acceptable employees and good citizens.

We find the pupils who attend these schools comprise roughly two percent of the school population with the boys predominating; the ratio being seven boys to three girls.

Programs for gifted students include enrichment activities at all grade levels. Acceleration programs whereby a pupil covers the curriculum of three grades in two years is common. Special programs for high potential students are found in many areas where these students are grouped in a class for grades five to eight; or withdrawn for one-half day a week from a regular grade classroom for special experiences in leadership, research, and creative writing of prose, poetry or the study of a novel.

Children whose academic progress has been seriously retarded by emotional problems are becoming too common. Two philosophies exist: (a) Segregation, where we place these children in a small class of ten with a specially trained teacher. (b) Integration, where we place two or three of these children in a well-adjusted class of 20 children with a teacher who can relate warmly to them. In my area we use the second approach and have found it reasonably successful. In severe cases, the child has been withdrawn from school and put on home instruction for a period of adjustment. We also have a private institution known as Boys' Village where a staff of two teachers, child-care workers and a mental health clinic staff operate a day school for boys who have severe emotional problems. The approach where we have several alternate programs is considered best.

During the past year, small classes of six to eight children, have been organized for children who display behavorial evidence of minimal brain damage causing perceptual difficulties and which result in learning disabilities. The programs have been based on the philosophies and practices outlined by William Cruikshank of Syracuse University and N. C. Kephart of Purdue University. These classes have not been in operation long enough to venture an evaluation other than to say that they are not custodial classes. From our two classes one child has already returned to a regular grade and two more have begun partial return to a regular grade program.

One of the major problems in extending The Council for Exceptional Children in Canada is created by geography. A population of twenty million people is spread across ten provinces and four thousand miles. English and French are the two official languages. To meet some of the problems arising from distances, The Council for Exceptional Children, Canadian Committee is composed of two representatives from each province. They meet at least once a year during the Annual CEC Conference. Quebec has both an English and a French representative. The committee publish the magazine Special Education in Canada and it goes to over one thousand Canadian CEC members. The membership in CEC across Canada has doubled in the past five years and we expect it will double again in the next five years. We hope our magazine can print articles in French so that it may serve all Canadians who are CEC members and who are interested in the education of the atypical child.

VISUAL IMPAIRMENT

EDUCATIONAL PROGRAM FOR BLIND CHILDREN WHO ARE EXPERIENTIALLY DEPRIVED OR RETARDED

Mary E. Rigby
Charles C. Woodcock

For several years the Oregon State School for the Blind has admitted a number of multihandicapped blind children. Some of these children have disabling neurological conditions, along with their blindness. Many, however, have no detectable neurological difficulties other than their blindness, yet they display severe social and behavioral deficits. For example, many are unable to carry out the simplest directions. Some cannot dress or feed themselves. Some have no capacity to use language and persist in echolalic utterances, or are silent. Some are virtually immobile unless urged to change their positions. Many are not toilet trained. Some are extremely sensitive to noise, while others vocalize or express nonpurposeful movements continuously. Some exhibit behavior characteristic of autistic children.

Typically, this type of youngster is excluded from schools for the blind. They are generally considered incapable of responding to academic material and are disruptive of classroom activity. The usual diagnostic label attached to them is mental retardation.

We believe that some of these children are experientially deprived, pseudoretarded children, who, given highly individualized care and attention could be maintained in schools for the blind rather than be restricted from school or admitted to institutions for the retarded. Our present project is designed to demonstrate our belief, to identify the pseudoretarded blind child from the larger group of multihandicapped blind children, and to develop a treatment scholastic program for him.

To justify the kind of program herein proposed, we shall first describe our conception of the underlying deficiency in early childhood which we have come to associate with a pseudoretarded blind child. Lawrence Caslar (1961) has described the arrested neurological development in infants whose parents or caretakers fail to provide adequate stimulation. Weinder (1962) contends that all blind children inevitably suffer some degree of stimulus deprivation. Unless there is sufficient stimulation in infancy to compensate for the lack of visual experience, a blind child is more prone than the normal child to develop "an inward turning of behavior and thought patterns" (Weiner, 1962, p. 77).

As part of the annual enrollment experience in our school we make a practice of inquiring into parental attitudes and patterns of behavior which occure in the family life of the blind child. Many parents report that their blind child was a nondemanding, placid infant who also happened to be especially frail and small and who had spent from six weeks to three months in an incubator. Accordingly, parents were reluctant to remove the child from bed to hold him, to comfort him, and to talk to him, especially as the child often resisted handling. When these children arrive five to six years later at the School for the Blind, many are excessively withdrawn and unresponsive. Many exhibit severe aversion for vocal or tactile stimulation. Their reaction is so severe that we have found it necessary, as have other schools, to exclude them from the regular school program. However, rather than dismiss them from school, we have established a pilot program over the past few years in which we have enrolled three to four youngsters at a time. Our present demonstration program is an outgrowth of this program but goes beyond it both in the number of children to be involved and in the number of techniques used.

To be eligible for admission to this demonstration program, a child must have been rejected or excluded from regular school programs because of physical, psychological, or learning capacity deficits which were of sufficient degree to suggest that the child would not be able to get along in the school program. Students of both sexes between the approximate ages of four to 12 are eligible.

Nine of the 13 children now enrolled have been at Oregon State School for the Blind for two or more years and have demonstrated their inability to profit by regular classroom instruction and dormitory living. Two children were rejected by other schools in the state, one child was not eligible for regular classroom instruction because of recent brain surgery, and the other child had been in the Fairview Home for the Mentally Retarded until he became old enough to meet the age requirement of the State School for the Blind.

Each child has been given a thorough diagnostic examination at the University of Oregon Medical School. Each child was first examined by a pediatrician and referrals were made to other departments. All were examined by opthalmology, neurology, and psychology departments; many received additional tests and treatment as indicated. Some are still being seen at regular intervals for followup care. All children will be reevaluated at the end of the three year period covered by this program to provide an objective measure of change in their condition and behavior.

Parents of the children were asked to fill out a developmental history for each child and to release to us all information available from other sources. Supported by these studies, immediate and long term educational and social goals were defined for each child. The child's progress will be reviewed each six months (or more often) and the plan revised if necessary. Frequent consultation is held with the parents who cooperate in carrying out the child's program while he is at home. Children spend weekends at home, some every week, and some rarely, depending on distance and conditions in the home.

The 13 children who have been admitted to the demonstration group occupy the former principal's residence on the seven acre campus of the Oregon State School for the Blind. They share in the facilities and activities of the other students to the extent that they can profit from such experiences. They eat in the dining room, but in their own group and are supervised by the group's staff members. They have use of the gymnasium, including the heated swimming pool and other recreation facilities.

Staff is composed of the principal coordinator, a supervising teacher, a specially trained teacher of the blind, a teacher of physical education, three counselors, all of whom are college graduates, two child care workers, and another who works part time while studying elementary education. In addition, five volunteer workers donate one-half day or more to individual work with children and three of these are former school teachers at the elementary level. An additional number of Willamette University students donate an hour or more time per week to help in various activities with the children under the direction of staff members.

Curriculum for this group differs from the usual primary one in that special emphasis is placed on the development of concepts and provision of many and varied experiences, large amounts of sensory stimulation provided, and an unusual emphasis on physical exercise.

Beginning September, 1965, and continuing throughout the program we planned an enrichment and concept building program of experiences. Because we have found in the past that these children lack knowledge assumed to be common to all children, a series of activities to build concepts was planned. Lists of all experiences mentioned in state adopted primer and first grade readers were made. For example, in a Ginn preprimer the making of an apple pie is mentioned. We made arrangements to take the children to a small orchard where they were able to examine the apples growing on the tree. Time was spent on a one to one basis with each child explaining as much about the tree as possible. Each child picked several apples both from the ground and from a ladder. The apples were taken back to the kitchen, washed, peeled, cut, and baked in the pie. The children also helped to make the pie crust, tasting, and examining each ingredient as it was used. They smelled it baking, and had the satisfaction of eating it. Not only once, but repeatedly they baked an apple pie. Experience stories covering the trip and cooking were written and read. A tape recording was made of the experiences related by the children. In spite of the time and care taken in this experience, only one child could write and read the words, apple pie at the end of the week spent in this activity. We will repeat the experience again next year and compare performance at that time. It will be interesting to note behavior changes after one year.

We take advantage of seasons, holidays, and every possible opportunity. We made trips to a vegetable garden to gather vegetables which were then made into salad, stew and soup; to a turkey farm to purchase a live turkey and followed through the preparation process until we ate roast turkey; to department stores to purchase cooking utensils, toys, and other items; to a museum to examine stuffed animals which will be followed soon by a trip to the zoo to see the live animals.

Being a small group and living in a three bedroom home we stress the family atmosphere. We take full advantage of our fireplace and the children greatly enjoy bringing in materials and helping to build the fire. They are quick to note different sounds and odors of varied fuels. Tearing waste cartons strengthens fingers and provides opportunity for every child to make some contribution toward making the fire.

Another advantage of the home atmosphere is that we have a fenced yard in which to keep our pets. So many blind children have had no experience with animals, and many are reluctant to touch them. Popcorn, our mature white housecat, has been with us from the beginning. One small boy was very much afraid of cats (his mother had used them to threaten him when he was very small) now not only tolerates sitting on the same davenport with Popcorn, but was observed pulling up his shirt to feel the fur on his tummy the other day. Myrtle, our turtle, lived all winter in a box in the utility room, and was cared for by the older children who enjoyed going to the kitchen to get lettuce and hamburger for her, and giving her a pan of water in which to bathe. We had a crow for a few days, long enough for the children to examine a bird and see what it was like.

Charlie, our duck, came to us last fall, when her family had to move and could not take her with them. She is very friendly and allows the children to pet her. She obligingly swims in her bathtub pond and will follow them about the yard. This spring Charlie surprised us by laying eggs and now has been joined by a drake which gives rise to the hope that we can get some natural sex education. On being shown the new duck, the first question was, "What is his name?" When told that he had no name one child suggested Edward, her father's name, and another "Quack" so we now have Mr. Edward Quack as a part of our family. Noting the difference in tone of their quacks encourages sound discrimination.

Our newest pet is Dana, a one year old German Shepherd who was raised with young children and is friendly and affectionate. The children now have two dogs with whom to play, as our superintendent's family dog visits us often.

We have had rabbits and guinea pigs, and will again now that warm weather has come again. Feeding and caring for pets, learning to treat them kindly, and taking responsibility for their well being widens experiences of our children. This is usual for children living at home, but is one of the experiences often missing in a dormitory living situation.

It is too soon to accurately weigh observations, but certain trends seem to be evident. The children resist all new experiences, are apprehensive and afraid to go to new places and examine new things. Care and judgement must be exercised by staff to push the child as far as he can tolerate the experience but no farther. For one it may be that just the ride in the bus is as much as he can take; it may require several trips before he can venture to leave its safety and touch a tree or animal in a new place. Having an adult who is well known to the child to explain and reassure every step of the way raises tolerance. Dragging a group of children through a situation without detailed explanation and experience has an adverse effect and causes only harm. One must allow sufficient time for thorough exploration and understanding. It well to plan for just one experience on a trip; more results in confusion and fatigue.

Another aspect of our program is sensory stimulation. Of course all experience comes through stimulation of the senses, but we make a conscious effort to multiply the ordinary amounts in every way possible. We feel that silence affects blind children in the same way that wearing a blindfold affects seeing people. Constant auditory stimulation in the form of music or stories cuts down on the number of emotional outbursts, and undesirable mannerisms mistakenly referred to as "blindisms." If the child is also bouncing on a rubber cushion and manipulating clay, a toy, or some other substance which provides tactile stimulation, the amount of positive intake is increased. Oddly enough, after some weeks or months spent busily, the children are more able to sit quietly listening to a concert or program without the tapping, rocking, and other mannerisms which are undesirable. We are not prepared to say this is cause and effect; we have only observed the resulting behavior which may be due to some other factor.

Sound cues are pointed out in moving about the campus, situated as it is near downtown Salem. Games are played in identifying common sounds of home and city. Special records are most helpful in supplementing real experiences for bird songs, animal sounds, and many other sounds not present in the environment. The child also learns to recognize a basic inventory of tastes, odors, forms, and textures. In short, other senses are used to make the child acquainted with every aspect of his own body and surroundings, and to help him understand the quality and use of objects and persons around him.

Closely connected with this is an abundance of physical activity. Mat work, bowling, roller skating, walking, swinging, bouncing, etc. are given more time and emphasis than found in the usual school program. This winter we began to impose short periods of passive exercise upon the children using groups of volunteers to help the staff. This provided massive amounts of stimulation through auditory, tactile, kinesthetic, and proprioceptive activities. Muscle groups these children had never used were stimulated and taught movement patterns.

We plan the construction of a sensory stimulation center at the school which will provide a new and interesting area for physical activity indoors, and also be a source of many kinds of sensory stimulation. The architect's drawing provides for four areas of activity increasing in difficulty and providing many different textured surfaces, a variety of forms to be explored, ladders, enclosed spaces, mazes including blind alleys, differing planes, hidden clues, even vending machines to provide reward for the accomplishment of feats of skill. Hopefully this will provide built-in motivation to goal directed activity and involve many different kinds of learning and problem solving skills.

Because this project was conceived to be for at least three years duration, no conclusions can be made at the present time. Instead we have a number of significant questions, some of which are:

1. Can sufficient stimulation be provided through useable senses to insure adequate neurological development?
2. What types of experiences will best promote normal development?
3. What factors are meaningful in determining the type of child this program can benefit?
4. What criteria can be established to determine the readiness of a child to leave the program, either for regular school or to some other situation?

THE GIFTED

A.I.D.
ON THE PROVISION OF ENDURING PROGRAMS FOR THE GIFTED

Ruth A. Martinson

Because of our newly awakened national concern for the underprivileged, uneducated underdog, we have launched forth in a new cycle of activity and enthusiasm among educators. The need for concern about the underprivileged is in no way to be discounted; attention to this particular group is long overdue in our affluent society. What we must avoid is the kind of irresponsible enthusiasm which causes us to leap upon the latest bandwagon, leaving undeveloped the program in which we were last involved. Since among all programs, that for the gifted is least well supported by foundations and federal agencies and since it is a field likely to be of least concern to the population as a whole, the problem before us is the development of enduring programs for the gifted--programs which will survive beyond a cycle and which will serve to provide frontiers for educational development in general. The problem will not be easy, but the task can be accomplished.

The route to endurance can be described on the basis of three important principles which require the recognition of available means which will help to preserve and enhance educational programs of importance to the most capable of all American youth. If we believe in the ultimate betterment of society, the elimination of social ills, and the improvement of human performance in the arts and sciences, then we redouble our efforts on behalf of the population whose abilities and talents predict major contributions in these fields. The efforts we make should be considered on three bases:

Avoidance is the first. By avoidance is meant the avoidance of certain credos, cliches, and human obstacles to the improvement of programs for gifted students. During the last generation we were subjected to the writings of William Bagley, who quite evidently feared the gifted as an elite who would subvert our country to their own ends and who regarded any special provisions as undemocratic and therefore, unAmerican. His counterpart during the present generation is Bruno Bettelheim who, as a clinical psychologist in charge of a school for the emotionally disturbed, assumes himself somehow to be an expert of wide experience on the schooling of the gifted. Bettelheim writes with great abandon in popular journals on the dangers to the gifted of special programs, in seemingly complete oblivion to the fact that he himself is conducting a special program at great expense for a group who presumably benefit from such special attention. We have also one vocal lady residing on the east coast and another on the west coast who cause conventions to reverberate with their pronouncements regarding pressures on children somehow caused by programs for the gifted. These two individuals have written lengthily on the need for providing for individual differences, ignoring the inconsistency between their pronounced beliefs and their actual stance when attempts are made by educators to provide flexible programs and meaningful curriculum for the gifted in the public schools. The insidious aspect of pronouncements from individuals like these is that hearsay piled upon hearsay creates doubt and, unless the recipients of hearsay analyze the logic involved, may create beliefs which destroy programs. Persons of this sort are persons to avoid and by avoid I mean omit from program development. As we know, certain individuals have had a long history of clear hostility toward programs for the gifted and these few should be written off rather than included in efforts to foster programs. Avoidance of these individuals is one step, but a necessary step.

Avoidance must be used also in the unwarranted cautions or hesitation on program development which come out through cliches. As one example: "What is giftedness?" We know enough and have known for a long enough about the gifted to avoid this booby trap. Booby trap it is, often placed by the same persons who caution against pressures of the creation of elites. I hope in the next few years that members of this group will address themselves to speaking out forcefully concerning the verbal rubbish which has been spread around without challenge by some individuals.

Another area for avoidance is the fad, the unsubstantiated generalization, the new twist to the old precept. The opportunistic adopt new gimmicks, follow promoters down devious paths, and lose sight of the task at hand. We are somehow loath to examine critically the new approaches, the models, the terminologies which barrage us on the claimed basis of logic or sound research design or historical precedent, as the case may be. Yet one of the means for avoidance of mistakes is critical examination and only after examination, adaptation of the appropriate rather than the adoption of the inappropriate simply because it has a new term attached to it. Avoidance of the supersalesman educator who enthusiastically presents his wares as the hope of the profession until he also presents data to substantiate his claims will cause us to move forward perhaps less spectacularly, but more surely than we have in the past.

Involvement is the second key to enduring programs for the gifted. The individual who regards the program as "my" program dooms the total effort to failure. The commitment of the profession must be direct. A long time ago, William James pointed out to us that the only interests which we feel intensely are our own interests. The importance of our own duties and our absorption in our own vital secrets cause us to have less interest in the efforts of others or little awareness of the significance of those efforts. If we look to others for intellectual identification with our interests, we look in vain. Our efforts therefore must be directed largely toward the active involvement of potentially supportive colleagues and recognition of their contributions whenever possible. The need for involvement is particularly pronounced at the present time because the cyclic tendencies in education have caused some of our most enthusiastic colleagues who formerly supported programs for the gifted to seek recognition and involvement via the poverty program. The mobility of our erstwhile supportive colleagues has, for us, only one message: We must work harder. Involvement is also necessary for the eradication of problems which consistently plague us. Faculties who deal with students must become involved in eliminating the two favorite criticisms of programs; namely, punitive grading and unreasonable requirements.

Development forms the third basic stepping stone to enduring programs for the gifted. We can assume, despite our literary inheritance, that we have grown beyond such previously popular quotations as "Be good, sweet maid, and let who will be clever." Through the efforts of Terman and others we largely accept, even within the general population, the idea that superior abilities are not related to delinquent behavior, lack of judgment, physical anomalies, or chicanery. The idea that the individual blessed in mind must be deprived in some other area has been generally discounted through many studies including the California Study, in which interrelationships among intellectual, physical, and social maturity and highly advanced emotional and psychological maturity in the gifted were demonstrated.

If we want to capitalize upon knowledge developmentally, we must assume the responsibility of transmitting this knowledge. It is not inherited by our fellow educators or citizens at large. The persons who are most directly concerned with sound programs have the responsibility of communicating the state of development in programs for the gifted with complete recognition and utilization of work which has gone on in the past. The repetition or reiteration of such efforts is not productive. The translation and communication to the profession at large is. Thomas Stearns Eliot pointed out that no poet or artist has his complete meaning alone. His significance is based upon the appreciation of his relation to the dead poets and artists. This wisdom we can translate to our own profession in the recognition of our need to utilize unceasingly sound research studies on the gifted which are available to us and which must be transmitted to our professional colleagues.

The use of accumulated knowledge is sound, for such information provides a sense of continuity and development to programs for the gifted which serves to discredit fads, the incidental enthusiasts, and the critics who detract from development. The use of past knowledge toward continuing development and improvement means that the program is more likely to be perceived and accepted as a program which is to be increasingly integrated into the totality of continuing educational effort. Many of our problems in the past have resulted from lack of attention to the efforts of those who have worked in this field during the past few decades.

In the interest of development, I suggest too that we utilize to the fullest the contributions of our colleagues and friends present at this convention. Within this group, regular intragroup information should circulate regarding the possible availability of individuals who can come into your states to support your efforts. There is no reason why, for example, if a person is traveling on other business, his plans should not be made known so that he may be included on your local programs to support the work in which you are active.

I have talked about certain cycles and certain problems and persons which provide barriers to our goals and which perhaps serve to foster unwarranted pessimism within us. If we center on the obstacles, none of which is really important, the pessimism will encure. If we center on the task before us, the obstacles will be placed in proper perspective. The task to which we address ourselves is the most important task in education. The gifted and programs which we develop for them will release many barriers impeding educational progress in general. Intelligence is a virtue desperately needed in the world today. Your courage and steadfastness in the systematic, logical provision of opportunities for the proper development of high ability is the most important work in which you could involve yourselves. As John Erskine has pointed out, "If you want to get out of prison, what you need is the key to the lock..." Perhaps the modern world has gone into a kind of prison and what is needed is the key to the lock. The key to the lock will be found indirectly through your efforts in the preparation of gifted students for their creative tasks in society. In maintaining our purpose with continuous commitment, perhaps it will be helpful to us to keep in mind the remark of Voltaire when he told us that Nature, in forming our species, provided us with the instincts of self-esteem for our preservation, benevolence for the preservation of others, love which is common to all species, and the inexplicable gift of combining more ideas than all the animals together. Then having given us our portion she said to us, "Do as you can." This simple statement presents to us a philosophical basis for our professional efforts: "Do as you can." The application of this statement will permit us to keep our sights steadily on the goal and to operate with productive results in avoidance of the irrelevant and the involvement of our colleagues and the development and expansion of programs for the gifted.

If we work consistently, we can avoid the dilemma of the Frenchman who had just returned from his first visit to the United States and was asked about his impressions. He responded: "America is a grand, marvelous country, and the people are wonderful too, but they have a self-contradictory turn of mind. Take, for instance, their national drink, the cocktail. They pour some whiskey into a glass to make the drink strong, then add some water to make it weak; they squeeze some lemon juice into it to make it sour, then sprinkle some sugar to make it sweet; they dash in some brandy to make it hot, and they put in some ice to make it cool; they shake this concoction, hold the glass up, say 'here's to you', and drink it themselves."

TOWARD SUCCESSFUL TEACHING OF THE GIFTED

Ruth A. Martinson
Jeanne Delp
Jean Wiener

The successful teacher of the gifted is assumed to possess high intelligence, a diverse and advanced educational background, interest in learning, and psychological maturity sufficient to work properly with his students. Beyond these attributes several factors are important at both the preparatory and functional levels. The successful teacher does not go into the classroom without considerable preparatory activity. The preparations involve selective study of the literature dealing with the gifted population and their educational programs, and planning in considerable detail the scope and direction of the curriculum itself.

Selective Study of the Literature

One of the major problems confronting the classroom teacher today is the overwhelming amount of professional literature to which he is exposed. The value ranges in quality and objectivity. It is not our purpose here to deal with those materials based only upon the opinion of a single expert. The intent, rather, is to present some general guidelines which any teacher can use to determine whether a particular piece of research is meaningful. The consumer is faced with the problem of trying to select significant material and to evaluate the conclusions of the research presented. Certain basic criteria can be used by any teacher in selecting from the literature that which is relevant and discarding the materials which are not founded on defensible bases.

Scope. One of the first criteria is adequate scope of a particular study and therefore the potential use. A study which deals with a particular age level is applicable to that age level; a study which deals with interests of boys is not necessarily transferrable to interests of girls. A study which deals with a certain type of population in a certain type of community is not necessarily transferrable to another community. The researcher who generalizes beyond the scope of the population and setting with which he worked is enthusiastic, but he is not scientific.

Caution is particularly relevant in relation to the gifted because of the multiple definitions which are used with this population. Again, generalizations are valid only in relation to a similarly defined group. Beyond definitions, claims are made in relation to the success or failure of the programs when actually the program consisted only of an administrative change with no further activity. For these various reasons, the reader has the responsibility of examining the bases of a study very carefully.

The reader of any particular study can expect sufficient precision in the description of the study so that the process is completely clear. The reader should be able not only to analyze the worth of the study from the basis of logic contained in the materials and procedures which are employed, but also to have available sufficient detail so that the particular study could be repeated with similar results in another setting.

The discerning consumer will look at a given study also to determine whether the procedures and methods employed make sense in relation to the avowed purpose. For example, in one recent statewide study of ability grouping, the apparent conclusion was that homogeneously grouped children performed no better than heterogeneously grouped children. Perusal of the data revealed that ability groups were not established through the usual intelligence tests, but rather through achievement tests. The study more accurately might have been called an evaluation of achievement grouping. However, any comparison is suspect in view of the fact that in the heterogeneous groups an enrichment program and differentiated curriculum were utilized, while a textbook program was used for the homogeneous groups. One might rather assume that the research director had some preconceived biases favoring heterogeneous grouping and that the intent was not research but rather support for a previous point of view.

Summary Statements. The often enthusiastic claims presented in summary statements also should be evaluated carefully. Confusions have frequently resulted from reading such statements as those commonly presented on the lack of relationship between intelligence or IQ and creativity. It is well known that beyond a certain level of intelligence there is no correlation between IQ and the creativity process tests now in existence. This is not to say that intelligence tests are therefore useless, but that the relationship between these two types of measures at the extremes is nonexistent as is the relationship between extremely high intelligence and an equally unrelated test of mechanical aptitude. A further example of enthusiastic overgeneralization may be found in the claims of individuals who have found certain test materials useful with young neurologically handicapped children and on the basis of this success postulate the usefulness of these materials at all age levels.

Tests. The skeptical consumer should look also at the tests which are used for a particular purpose and decide on their validity for the particular situation. For example, if one reads a particular study which shows no difference between children in special interest groups and those who remain in the regular classroom, the initial reaction is against special interest grouping. If one examines the academic subjects measured and the measures utilized, the skepticism may center upon the study itself rather than the topic studied. When students are grouped in special groupings in particular subjects, the tests employed must test achievement in those particular subjects and not in unrelated subjects. Tests in reading or spelling have little relevance for evaluating the success of science or social studies groupings, yet this type of evaluation actually has been done.

Inferences and generalizations made from studies should not extend beyond the scope or the limitation of the study itself. Studies which generalize to all populations from results obtained with 30 or 40 students are overgeneralized. Studies which generalize from clinical situations to all "normal classroom situations' are overgeneralized as are studies which generalize from rats to humanity.

Although it is difficult to control all variables when research involves human beings, it is important that as many variables as possible be controlled. For example, if a given individual test identifies the experimental population, the same test should have been employed under the same conditions with the control population. Such factors as age, sex, socioeconomic status, school environment and program procedures ought to be controlled and clearly described. If adequate controls are not utilized, it is difficult to accept study results as valid.

Conditions of Bias. Finally, the consumer who is analytical in his approach to the claims presented in research looks for conditions which appear to bias the experimenter or the subjects of the experiment. Some researchers may reveal themselves as biased in a particular direction and therefore may tend to skew their results or overgeneralize from particular data. If possible, the consumer should review previous research put out by a particular individual in order to know his or her philosophy.

To summarize, the teacher of the gifted can use research intelligently if he maintains a healthy skepticism in his reading of the literature. He needs to evaluate opinion as opinion, and decide the qualifications of the individual who expresses an opinion, as well as his biases. He needs to evaluate the results of studies on the basis of the care and objectivity maintained in the conduct of the studies and the accuracy with which the conclusions are presented. An approach of healthy caution to the literature which has appeared in the past few decades will result in less confusion and increasingly judicious application of findings to classroom practice.

Establishment of Proper Conditions for Learning

The teacher of the gifted who works successfully with a group believes in an open potential. This belief is based upon an awareness of the power and complexity of gifted human beings. The belief derives in part from data obtained in case studies, which invariably reveal the multiple talents and capacities the gifted possess. The belief also emanates from a kind of projection resulting from the known limitations of intelligence tests themselves. The limitation is more acute when group tests are used rather than individual tests.

Teachers have been confused often by criticism leveled at the IQ and its limitations. Because the intelligence tests cannot measure all aspects of human ability the test limitations ought not to be generalized to the child himself. One should not assume the point of view which goes something like this: Here sits a child who has taken the _____test. On this test he attained an IQ of 136. The test is a "mere measure of language and mathematics;" therefore we know that this individual performs very well in these two particular areas, but we cannot assume much beyond this.

A healthier perception, more in keeping with the development of human potential, might be something like this: This child has taken_____test. On this test he obtained an IQ of 136 which especially represents measured potential in learning language and mathematics. If other tests were available, the likelihood is that he would do well on those also. Because of his high aptitude, this child started learning earlier than the average child. He has a greater store of information and more interests than others. He learns more easily and rapidly than others and arrives at the concept transfer level sooner than his average classmate. Since he has a broader background of learning in various fields than his classmates, he ought to be able to use this background as a point of departure for additional learnings.

We acknowledge the limitation of tests. We do not apply limitation to the individual, but proceed rather on the basis of his interests and his potential. We recognize that the measured high potential in language and mathematics rests in an individual who, with proper education, has the latent ability for creative production in poetry, in literature, in the resolution of social issues, in the effective communication of ideas, in the sciences, invention, and in many of the arts. The possibilities inherent in language and mathematics abilities are endless, and the concept of unfolding these potentials ought to form the basis from which we view the capabilities of the gifted.

Belief in the gifted and their potential and the nurture of their abilities is an untapped area of educational endeavor. We know from direct experience that when the teacher frees the gifted to function at a level in keeping with his abilities and interests, he responds by increasing uniqueness and individuality in performance and shows a greater range and diversity even in his performance on standardized tests. The gifted child who works without the limitations of the norm is not subjected to leveling factors as he goes through school, and becomes increasingly distant from the average as the result of his accumulating knowledge.

The teacher of the gifted has a task which is unique for teachers of exceptional children. All other teachers of the exceptional are readily aware of the handicaps with which they work, at least the major ones. The teacher of the retarded is quite cognizant of the academic limitations of her pupil. The teacher of the visually or orthopedically handicapped similarly has a clear and obvious frame of reference for working with her pupil. The teacher of the gifed, on the other hand, has the unique problem of providing an environment which permits giftedness to manifest itself. If the climate and conditions within a given classroom provide wide latitude for varying interests and varied levels of knowledge, the gifted student will flourish. On the other hand, if the expectations within the classroom are prescribed and uniform, the gifted with their peculiarly insightful sensitivity often will assume that the situation is legitimate and adapt to it. This may be on the basis of their perception of the problems that the teacher faces because of numbers in the classroom, lack of availability of materials, or other factors. At any rate, giftedness has the dangerous capacity for effacing itself quite completely. Unless teachers actively encourage the development of abilities, the abilities may remain obscured and the teachers may state skeptically that "My gifted do not show the characteristics reported in that research. I don't think the research is true."

The teacher of the gifted child can facilitate his learning through release from many group requirements and an increase in the opportunity to function independently and individually. It is our belief that the greater the giftedness in the school situation, the greater the possibility of frustration. An educationally healthful environment is available to the child whose teacher permits him to read avidly in accordance with his own interests, or whose teacher permits him to pursue a particular interest although the growth and development literature assigns this interest to a typical child twice his age. The guidance of a child's own interests and the nurture of his interests forms an important basis for the encouragement of giftedness which extends to freedom for self-selection or self-determination in many fields.

We have known for many years that those teachers who encourage the interests of children and who regard the interests as legitimate find that the interests extend into wider and wider realms. When children are permitted to search freely for information and to explore ideas, and when their interest is piqued by the skillful questioning of their teachers, they go on to the formulation of added interesting and unique ideas. These teachers respect children and their ability to function well with constructive guidance rather than with directed, organized and imposed requirements.

The teacher who works with his gifted pupils as a guide endorses and uses flexibility in teacher-pupil contacts and classroom processes. He avoids detailed structuring of assignments and allows instead a wide margin of freedom within which the child may use his own methods and resources toward a given solution. The use of broad questions and the employment of flexible classroom procedures and widely selected materials allows the child freedom for exploration and discovery. In the ultimate need to present ideas well, the child will learn some of the means for effective communication, for style in composition, for spelling, for increasing perfection in expression. Mechanics should be second to ideas, however. The teacher who places ideas first will find that children respond freely. If techniques or mechanics are stressed, the gifted are bright enough so that they will subvert the teacher's purposes by expressing themselves parsimoniously in order to have less content in which they are required to correct spelling and grammar.

Differences in ideas may produce controversy but uncomfortable though controversy may be, the assumption must be held that the child has a right to produce differently, to be himself, and to function at his best. The notion of flexibility can reasonably extend to even the working location of the student. If we accept the well documented research findings of advanced psychological maturity and high level responsibility in the gifted, we are willing to release from our custody even young children at the elementary school level for independent, individual study and for research on topics of particular interest. It may be that a primary child needs to spend considerable time in the library, away from his teacher, to find certain information essential to his purposes. It may be that another child at upper elementary level may find a need to work with an adult other than his teacher, or with a particular individual in the community for a short time. If the teacher keeps foremost in his mind the right of the child to learn and seeks the conditions essential to his learning, then these arrangements become reasonable.

The optimum conditions for learning permit neither the laissez-faire approach nor the pushing which stems from unreasonable assignments. The optimum conditions are provided by the teacher who recognizes the fact that the gifted develop at a faster pace and arrive at a higher level earlier than their age mates. The optimum conditions permit self-direction, and capitalize on interests and the natural curiousity and interest in intellectual activity which these people display. If the expected high interest is maintained and if the measured progess is proportionate to the gifted student's abilities, then we can assume that a desirable environment exists.

Planning Curriculum at Appropriate Levels

The assumptions thus far made are that the teacher possesses certain qualities, that the teacher approaches the professional literature on the gifted with certain criteria, that the teacher is concerned about a proper learning climate for the climate for the children with whom he works. No teacher can be productive without an additional step: planning and preparation related to the area of curriculum study, itself. The following curriculum study is presented as a specific example of the process which is utilized by a teacher of the gifted.

In preparation for an enrichment study for the fifth grade on Leonardo da Vinci and the Renaissance, the teacher assumed that the prerequisite to success was extensive teacher preparation. Therefore, an extensive bibliography on the topic was read during a two month summer vacation. The approach was planned, the student materials were developed, and certain questions for exploration were formulated during that time.

The unit was introduced through the reading of a teacher written essay, "What Manner of Man." The students responded to a question "What kind of person do you think this man was?" by characterizing him as "shy, had a wandering mind which moved from subject to subject, lonely, crippled, separated from the rest of the world, curious, wanted to know a little bit about everything, and didn't know what he wanted to be." To check their assumptions, they read a short biography of Leonardo da Vinci.

The next question was, "What kind of times and circumstances might have produced this manner of man?" They arrived at some tentative conclusions in answer, and then spent a week reading widely about the Renaissance, to find out about the period in history which had produced Leonardo da Vinci. Some of the questions with which they worked at this time were at the informational level, providing bases for more complex questions later. The questions dealt with the life during the period, the meaning of the Renaissance, the bases for its occurrence, the great persons associated with the period, and so on.

The next two week period was a time for reading in depth about the people, the period, the daily life and times. Planned questions permitted both convergent and divergent response. The frame of reference statement: "The Renaissance was a time when circumstances and genius combined to produce great thoughts and words", was the basis for such questions as: "What evidence have you found which could support that statement?", "Is our world a better place in which to live because of the contributions of this period?", and others. During the two weeks, the students' particular interests in a given topic emerged, and the students were asking for books on certain individuals.

Focus on da Vinci in detail came through critical reading and analysis of Will Durant's essay on da Vinci, and analysis of questions such as: "Was Leonardo more of an innovator than an inventor?", "Was he a scientist as we think of one today?", "Would it have made any difference in the history of flight if Leonardo had had a different premise for his work on flight?", "Can you accept Leonardo's statement, 'Beyond a doubt truth bears the same relation to falsehood as light to darkness?'"

Student activities were structured to relate to the readings from Durant. The reading of many of da Vinci's fables was followed by the question: "In what way are they all alike?" After analysis and reflection, the students themselves wrote fables in the da Vinci style like the following:

> Once there was a snowflake high on a mountaintop. One day he started to roll down the slope of the mountain. He thought

> to himself, "I'm bigger than any other snowflake." He liked this idea but was smashed and scattered when he hit a tree.

Practice in observation founded on the perceptive observation of da Vinci formed part of the student's out of school activities. They went to a supermarket and library and studied people's faces to see what they could tell about their emotions. They went to the playground, selected objects, such as oak trees, distant buildings, or a maintenance shed, and studied their details in order to come back into the room and reproduce the details from memory. They discovered that they had not looked carefully, and additional trips to restudy the object was necessary. They decided that repetition of observation was better than copying an object, because they were required through observation to really look at an object and store its details in their minds.

They illustrated the fables and jests of da Vinci in charcoal and line drawings, the medium he used. Tapes were made of many of his fables for free time listening. Leaves were studied and sketched from memory. All of the activities were designed to sharpen the children's powers of observation and to increase their appreciation for the skill reflected in da Vinci's sketches and drawings.

To study the era further, the students prepared oral reports on a selected person or an area of endeavor which was related to the frame of reference statement. The oral reports were followed by an essay based on two assigned questions: "What impact has the Renaissance had on our world today?"; "How are influences from your area of study still felt by us today?"

The culminating activity centered on "Reflection on the Universal Man." The questions were carefully preplanned to elicit important ideas and allow the child to extend his learnings. Examples of questions used follow: "From our study can we justify the statement that Leonardo is a universal man?", "Is it possible for a man's contemporaries to judge him as universal?", "Why?...What is the universal man today?", Would his qualities be the same as the universal man of 200 or 400 years ago?", "Whom do you think would qualify as the universal man of our time?" The concept development, through questioning, took several days and in effect served to tie together all aspects of the study. The bridge to the period of exploration and discovery was made by posing the question: "How did the new awareness of learning created in the Renaissance, affect the exploration and discovery period of history?"

The total unit capitalized on the known abilities of the gifted to acquire advanced knowledge to explore wide interests far beyond their chronological age, to be creative and inventive, to work independently, to observe critically, and to formulate and examine generalizations.

The conditions for learning described earlier were reflected in the provision of opportunity for discovery, opportunity for variation in response, the use of advanced and varied reading materials, larger blocks of time, the opportunity for some self-initiating activities, tapping of the higher levels of intellectual operation, requiring the application of ideas to other fields, the development of new ideas, less day to day instruction on the part of the teacher, greater emphasis on discussion for evaluation purposes, than upon the written products of the students, the use of the tools of workshop learning (critical reading, individual study, finding materials, observing, reporting, orderly disagreeing and appraising opposing viewpoints), and finally, implicit faith in the intellectual abilities of the pupils to handle the enrichment experience.

A THEORETICAL FRAMEWORK FOR RESEARCH IN THE EDUCATION OF THE GIFTED

May V. Seagoe

Every one who works with special programs for the education of exceptional children periodically asks himself the critical question: Why am I doing things the way I am? Is it because it is the accepted way, or because it is the best way? Is it really the most appropriate scheme for structuring instruction for this particular group? How can I tell? The answer is inevitably, of course, research. Yet in judging the pertinence and comprehensiveness of research one must go back to some sort of theoretical framework concerning the problem of the particular exceptionality. That is what this paper attempts for the gifted.

Assumptions

But first there are some assumptions we must make. They may be common to other exceptionalities in some cases, yet perhaps not in all. To begin with, we assume that any program for better education for the gifted must be related to the nature of giftedness. The blind and the deaf need another method of communication; we supply it. The mentally retarded need direct experience; we provide it in quantity. The emotionally disturbed need reduction of stress; we rule out distractions and emotionally toned stimuli. In the same way, the gifted need an emphasis on concepts and concept formation.

A second assumption is that the basic objective in the education of the gifted is maximum self-realization. For the gifted this need requires particular emphasis, for much of the popular motivation behind special programs for the gifted is geared to social gain rather than self-realization. That point of view finds its effect on instructional opportunities. The gifted child needs a different kind of educational program because he not only will not gain adequately without it, but also because he so often shows frustration with the usual classroom fare. Without a special program it is difficult for him to grow normally.

The third assumption is that, since the gifted child has the potential to make a major contribution to social progress, he should be given special opportunities so that he may benefit society as a whole. He is a resource, not unlike uranium, in limited supply. It is true that, in proportion to their numbers, gifted children contribute more to social progress than others. But he is more than a social resource: he is a person.

Let us examine this last assumption in greater detail. Let us turn to the conditions under which the gifted child will make his maximum contribution to social progress, and to the limits which his need for self-realization impose. Then we will move on to problems flowing from that concept, issues affecting his education, and questions for research related to those concepts.

The Nature of Productivity in the Gifted

The term productivity, in the sense in which it is used here, refers to the making of significant contribution to social progress or to the richness of living in society as a whole. Terman's autobiographical studies of men of genius selected figures who met that criterion, from John Stuart Mill to Abraham Lincoln. All were gifted in varying degrees; but they were more than that. All possessed at least two and possibly three other qualities. To giftedness they added talent, creativity, and social acceptance of some sort. Let us examine each of these dimensions in turn.

By giftedness we mean essentially the G factor as analyzed by McNemar in his recent presidential address before the American Psychological Association. It means an ability to generalize from a minimum of direct experience, and to think in terms of concepts and concepts derived from other concepts. It means rapid flow of ideas, and facility in transfer from one concept to another. Because thought is presumably based on speech, it is usually associated with verbal facility, though not always. It is present to some degree in all specific situations, and provides the ideational fluency and conceptual facility characteristic of the gifted.

Giftedness is the basic quality which makes high productivity possible; yet it does not assure productivity. We have only to think of gifted individuals we know, or to read the literature, to know that few reach their maximum.

When the second dimension, talent, is added to giftedness, the rate of productivity increases. By talent we mean specific abilities, old fashioned S factors if you wish, which make possible a high level of performance in a specific field. The musician must have a keen ear and in some cases a bodily structure adapted to a particular medium; the engineer must have facility with spatial and mathematical symbols.

Talent alone does not assure productivity; talent in music without giftedness may lead to superior performance, but not to greatness and to inventiveness. But when talent coincides with giftedness, the individual has a dual advantage. Einstein had talent with mathematical symbols added to giftedness; Michelangelo had talent in working with spatial relations. Each became eminent by channeling his expression of giftedness into the field of his talent. Giftedness without talent would not have produced an Einstein, though it might have found other outlets; talent without giftedness would certainly not have resulted in the theory of relativity.

When the third dimension, creativity, is added to giftedness, the result is an individual who is capable of major social invention, of changing the course of history in his particular field. Creativity is not the same basic quality as either giftedness or talent, though its expression is more often observed in the gifted and talented. It is a personality rather than an intellectual factor, rooted in early interpersonal relationships. It is essentially the preservation of a high degree of the spontaneity each of us had as an infant in spite of social pressures to conform. It is a tendency to act on impulse or idea, to explore the untouched or untouchable, a willingness to accept the unconventional.

Yet the impulsiveness must yield to enough self-control that the individual can maintain continuity and direction in effort; spontaneity without the directional quality gets nowhere and hence fails to meet our definition of creativity.

Creativity is susceptible to more educational influence than some of the other factors we have discussed. The current study of Rubenstein and others have shown that specific training can increase the freedom of expression in any group of children.

The relationship between creativity and giftedness had caused needless confusion. The relatively high correlation between giftedness and creativity (around .4) does not mean the two are expressions of the same basic quality. A mentally retarded child may be highly creative, but he does not become eminent. A gifted child, with his fluency with ideas, may well become eminent if he is also creative, for his rate of output of ideas gives him a greater range of ideas with which to play and from which to choose. A current study by Martinson and Seagoe demonstrates this fact.

To clarify the concept thus far, let us think of these three dimensions as a cube. Giftedness and talent in any specific field provide the axes of the plane; when both are present the chance of productivity is increased. Then think of creativity as the third dimension: if the individual is high in that quality as well, his chance of making a social contribution is again increased. Giftedness, talent, and creativity may be relatively independent in origin, but when they coincide in that one-eighth of the cube the individual is capable of great productivity.

But there is a fourth factor with which we must contend if we would give a complete picture of productivity, and that is social acceptance. Society values some kinds of productivity more than others. It may reward or punish or ignore the product. Einstein was rejected by his professional colleagues during most of his life; Van Gogh did not live to see the popular acceptance of his style. The truly gifted-talented-creative person often works withoug the stimulation of social acceptance, often apparently in spite of it. But he becomes imminent only when that acceptance is given. Social acceptance has nothing to do with productivity, only with eminence.

For our purposes, then, I would define productivity as based on the first three dimensions only, and independent of social acceptance. If a gifted child wants to invent a new number system, or a new religion, he may work with his talent and his creativeness until he fully develops his idea. For his own self-realization that is sufficient. Society may accept his contribution immediately, or after his death, or never; but the gifted must be free to explore without the limit of social acceptance. Our job as educators is confined to helping all gifted individuals to find their talents, to become creative, and thus to become productive.

Problems and Research Needs Flowing from this Concept of Giftedness

There are some problems of gifted children that are implicit in their giftedness. First of all, there is the basic fact that gifted children are exceptional. As a result, they share with all other exceptionalities some degree of social rejection. Handicapped children were originally rejected; then programs were developed for the deaf and blind, then the mentally retarded, then the crippled, then the emotionally disturbed and the gifted. All are still rejected, not in educational opportunity, but vocationally and in some social fields.

For the gifted, there is a subtle but insidious difference in the rejection. Toward the handicapped we can feel sympathetic, strong in our helpfulness. Toward the gifted we may feel sympathetic, but we fear their greater strength. Many unconsciously fear we may create a power that may destroy us. For this reason, programs for the gifted meet a popular resistance over and above the fact that they are exceptional.

Wiener has demonstrated this fact for teachers, and for good teachers. If the teacher is also gifted, there is acceptance of gifted students. If not, the degree of rejection varies with the degree to which the teacher deviates from giftedness. The gifted child, particularly when he is also creative, not only requires a great deal of extra planning from the teacher but also out distances and sometimes challenges her. Unless the teacher is a remarkably stable and mature person, conflict may develop. The hopeful fact is that teachers can learn to accept gifted children through studying their needs.

Here much research is needed. What about parental acceptance? Acceptance by administrators? Acceptance by the community? We already know gifted children under good school conditions are reasonably well accepted by other children, particularly by those with related interests. But we do not know whether the acceptance by the total school community is all it could be.

In the second place, there are problems and research needs arising from the nature of giftedness itself. If we accept the hypothesis, as demonstrated by Lessinger, that concepts and opportunity for transfer should characterize their instruction, many current practices may be open to question. More of the same kind of instruction is inappropriate; even acceleration of content is not enough. The whole nature of the instructional act must be redefined to stress problem solving, to free the individual to reach his own conclusions, to help him try out new ideas and to accept failure when it occurs as a means to eventual gain.

We still need to find out whether this concept holds in other fields other than mathematics. We need to develop standards and criteria for programs and for teaching so that we may apply them to individual programs to determine their effectiveness. Such standards would assist state authorities in determining eligibility for subsidy, districts in assessing and building their own programs, and supervisors in judging the appropriateness of teaching.

In addition, there is still much to do in the development of teaching materials and teaching resources. Each attempt to improvise educational means should be again tested against the concept proposed, and be distributed only with proof that there was gain. Many studies in the field of curriculum are opened up. Does acceleration of content mean a stress on concept development? Should foreign language instruction be different for the gifted, perhaps related to linguistics? Do the gifted gain proportionately more from the new math than from conventional arithmetic? Are conventional methods of teaching reading and writing appropriate for the gifted? Each of us will think of current issues crying for investigation in this field.

Talent and Giftedness

In the third place, there are some problems and research needs flowing from the concept of creativity as independent of giftedness. By defining creativity as a personality variable rather than an intellectual one, we undertake the responsibility to develop in the gifted spontaneity under control as a part of the educational process.

Again there are both instructional and guidance implications. We have a number of studies of the effect of particular procedures on freeing creative power. Freewheeling, inductive problem solving, individualization of effort, and all the rest have been tried out and sometimes evaluated. All seem helpful.

We have studied underachievement in the gifted, too, and find the underachieving presenting many of the qualities of the creative, but without the degree of self-direction that leads to productivity. There the need is less for freeing the individual, and more for developing a sequence of experiences that will lead to direction and foster a sense of continuity in the individual.

Again there are many research problems relatively untouched. What is the relation of creativity to underachievement? How can we differentiate those whose need is for freeing spontaneity from those whose need is for self-direction? How effective are instructional programs where self-direction within a particular subject field is at a maximum? How effective is group therapy in stimulating creativity and self-expression in school work? How can we determine how much creativity can be accepted within the framework of school programs? Can we really change personality enough to induce creativity beyond the very early years in school? What are the most effective ways of fostering achievement in those without self-direction? Other questions will occur to each of you.

Productivity and Social Acceptance

So far we have talked about how to help the gifted child to become productive, through helping him identify talents and through developing creativity. We have used productivity without limiting the field in which it occurs, whether conventional or unconventional, in social demand or socially neglected. The remaining problem, then, is less one concerned with the education of the gifted than to attitudes of society toward productivity.

We all know that science is now highly reputable as a field of productivity; that the arts and humanities are neglected. We assume this is the result of world events and national attitudes outside our control. Yet we can control the social acceptance of all fields within the school, and can publicize our efforts in our own communities. And, after all, our students are among the citizenry of ten to 20 years hence.

We need not only broad opportunities for exploring talent and for recognizing creativity in the gifted, but we also need public recognition within the student body and the community--a variety of clubs, discussion groups, exhibits, perhaps even contests with broad participation.

Then we need to ask ourselves some questions. How effective and how diverse are our school programs for recognizing productivity? To what extent does this recognition affect parent attitudes and community acceptance? And, most important of all, to what extent does social acceptance build the ability of the productive gifted individual to maintain his direction, even under social rejection of the area of productivity he has chosen?

We have tried, then, to analyze what is needed to develop high productivity in the gifted, the development of intellectual capacity, talent, and creativity. That productivity we have defined as the criterion for educational programs rather than social acceptance. Within this context we have tried to illustrate critical problems for research. Hopefully, a cohesive attempt in this framework may add materially to the education of the gifted in our society.

CREATIVE THINKING ABILITIES OF INTELLECTUALLY SUPERIOR CHILDREN IN THE REGULAR GRADES

Robert M. Smith

A great amount of research activity is being devoted to studying creative thought from various dimensions. Generally, experimenters have limited their work to investigations concerning the process, person, product, or environmental factors related to creative thought. Research has moved so rapidly in this field since the stimulation provided by Guilford's report on the structure of intellect that due consideration has often not been given to defining the specific parameters of creative thought, the validity of the instruments used in assessing factors of creativity, and the desirability in sampling from a variety of populations of subjects. The latter point is particularly crucial, since the majority of studies reported have been conducted with school age children from upper middle class university communities. Because of these and other weaknesses in the reported research, many feel that generalizations concerning creative thinking have frequently exceeded the data.

Those studies investigating creative thought in school age children have reported low, nonsignificant correlations between intelligence and creativity in unselected populations, with these relationships increasing, often to significance, in selected groups, such as the intellectually superior. When creativity scores were correlated with achievement, relationships between .20 and .60 have been reported. Frequently, however, creativity scores have been combined into a total score and then related to other factors, such as intelligence and achievement. This does violence to the philosophy implicit in the structure of intellect model which has been used most often as the basis for research in creative thought.

In order to identify more specifically some of the environmental factors related to creative thinking, we are in the second year of a study designed to investigate the relationship between creative thought and socioeconomic circumstance of a large group of fifth grade, Negro and white children. There are approximately 900 subjects under study who as a group vary substantially in intelligence, achievement, socioeconomic position, and creativity.

As a tumor to this investigation, several relatively homogeneous groups of subjects were identified from the total pool of fifth graders and studied intensively. Among the subgroups studied were 60 intellectually superior children who had scored above 120 on a standardized group intelligence test.

The primary objective of the smaller study with the gifted children was to determine on which of the creativity factors gifted children differed from intellectually normal children when various variables of possible influence were controlled. Additionally, we were interested in observing the manner and degree to which the statistical values changed as these different variables were covaried.

Briefly, the design of the study was as follows. Each of the 60 intellectually superior children was matched with an intellectually normal child (IQ between 90 and 120) on the basis of sex, race, socioeconomic situation (as evaluated by the Warner Scale), and the school and classroom setting. All of the subjects responded to the Kuhlmann-Anderson Intelligence Test, Metropolitan Achievement Test, and eight tests evaluating creative thought, which included the Word Fluency, Ideational Fluency, Associational Fluency, Seeing Problems, Making Objects, Unusual Uses, and Consequences tests from Guilford's Battery, and the Circles Test which Torrance has developed. Factors from each of these tests can be related directly to specific cells in the structure of intellect. The tests were chosen on the basis of high factor loadings reported in studies aimed at identifying simple structure between and within the various dimensions of creative thought.

After the tests had been scored using standardized scoring systems (with interscore reliability ranging from .90 to .97), the data were processed in several different ways. Most of the eight tests can be scored in various ways, therefore it was possible to identify 19 factors most of which could be related directly to the structure of intellect model. Additionally, four total creativity scores were analyzed. Correlational analysis was done between IQ, achievement, mental age, chronological age, and all of the creativity variables. While this was revealing in terms of the degree of shared variance between the creativity scores and the other variables, it did not make dramatic the degree to which differences between the two groups on the various creativity variables occurred when the variables singly and in combinations were covaried. Thus, an analysis of variance and analyses of covariance controlling individually IQ, achievement, mental age, and chronological age were performed on each of the creativity variables. Two additional analysis of covariance procedures were done, one controlling IQ, achievement, and chronological age, and the other covarying IQ, achievement, chronological age, and mental age. Each of these procedures involved a 2 x 2 (sex x group) analysis. It was then possible to ascertain differences between the two groups, both sexes, and their interaction on each of the analyses on every variable.

Prior to the processing of the data, it was felt reasonable to expect the gifted children to exceed their normal controls on the majority of creativity variables, particularly those which involved verbal responses. There is ample precedence for this in the literature. Further, from other studies, it was hypothesized that the females would be substantially superior to the males in their creativity responses. If any interaction occurred, it was speculated that it would always favor the gifted females, with the normal males being the lowest of the four groups.

Separate correlations were run for IQ and achievement with all of the creativity variables fro the gifted and for the normal subjects. It was noticed that substantial differences existed between these two groups in the way the dependent variables were related to intelligence and achievement. For the gifted subjects the correlations between intelligence and the verbal creativity factors ranged from -.22 to .07; whereas for the normals the correlations on the same variables ranged from .07 to .52. On the nonverbal creativity items, the relationship with intelligence for the gifted subjects ranged from -.28 to .20; for the normal subjects the correlations were from .05 to .26. The same general findings were evidenced when achievement scores were related to creativity factors. Correlations of intelligence and achievement with the creativity variables for the gifted subjects were low and often negative; whereas the relationships between the same variables for the normal subjects were always positive, with the range extending to the high sixties.

An analysis of variance and six different analyses of covariance, controlling for different variables in each instance, were done to evaluate differences between the two groups, the sexes, and their interaction. A general summary of the results will be presented in the following order: (a) differences between gifted and normals, (b) differences between males and females on dependent variables, and (c) the interaction affect between the two conditions.

First, using the analysis of variance procedure, the intellectually gifted exceeded the normal subjects on eight of the fourteen verbal creativity factors, at or beyond the .05 level of significance. Significance was not observed between the groups using this statistical procedure on the evaluative factor (seeing problems) nor on any of the seven nonverbal creativity factors.

Controlling for intelligence erased many of these differences. Differences favoring the gifted children were seen on three creativity variables, one at the .025 level related to sensitivity to problems, and the other two at the .10 level on ideational fluency and total creativity. Interestingly enough, the normals exceeded the gifted subjects at the .05 level on one variable, the obvious consequence score, which has been identified as the divergent production of semantic units.

When achievement was covaried, the gifted children were significantly superior to the normals at the .005 level on the sensitivity to problems factor. The normals exceeded the gifted subjects at the .10 level on the obvious consequences score.

Controlling for mental age alone wiped out all differences except for a trend at the .10 level favoring the gifted children on the sensitivity to problems dimension.

When chronological age was controlled alone, six of the 22 variables, all of which were verbal, favored the gifted children at or beyond the .10 level in three cases, and at less than the .05 level in the other three instances.

When intelligence, achievement, and chronological age were covaried together, as well as when mental age was added, the only variable on which any differences occurred was on the obvious consequences score at the .10 level, favoring the normal subjects.

Since the literature is clear in reporting differences between males and females on scores of creative thought, we expected to observe differences favoring the females. A total of 154 separate statistical analyses were performed on the males and females in the course of the data processing. Four of the analyses were significant at the .10 level and one at the .05 level. By chance, we would expect at least seven significant differences to occur. Four of the analyses showed differences favoring the males, all on the sensitivity to problems factor. The other difference favored females on the word fluency factor at the .10 level.

Seventeen of the 154 separate statistical analyses related to interaction were significant. Twelve of the 17 scores were in areas directly related to nonverbal creative thought, i.e., in the areas related to the divergent production of figural products. In the area of nonverbal fluency, the gifted females were consistently superior to all other groups, irrespective of the variables statistically controlled. The gifted males were the lowest of the four groups on this factor. In nonverbal fluency, the normal males were consistently superior whichever statistical control was used, followed by the gifted females, the normal males, and the gifted males. The remaining variables on which differences were noted were significant at the .10 level. Time would not be well spent in a discussion of these trends at this point.

The results of this study suggest several things. First of all, differences were [illegible]t seen between the groups on the nonverbal creativity factors. The reason for this may be associated with the fact that all of these children, both gifted and normal, were associated with a more middle than lower class situation. There was substantial homogeneity within and between groups on this important variable. I suggest that this is important since in the larger study from which these subjects were selected, differences were seen between the social classes on the nonverbal factors, favoring lower class children. This is an indication of larger between group variance than within group.

Secondly, and perhaps most important for future research in creative thought, when certain influential variables are controlled singly, collectively, or not at all, wide discrepancies existed in terms of on which dependent variables significant differences will be seen, as well as the level at which significance occurred. At first blush, this may seem to be a rather pedestrian notion until one inspects the literature in creative thinking and observes that many of the studies analyze and discuss differences in creative thinking between groups in terms of a total creativity score. This results in a great possibility of substantial error occurring in both directions.

Further, since wide differences existed between groups in the relationships between the dependent variables and those that were covaried, it would seem wise for future studies to consider first these relationships before proceeding in the analysis between groups. This seems particularly advisable when one notices the wide variation in relationship, not only between groups but within groups on each of the dependent variables. The range in the correlations for both the gifted and normal subjects in this study was large and varied substantially according to the specific creativity factor on which relationships were made with IQ, achievement, chronological age, and mental age.

In summary I would like to make some general comments concerning creative thinking. It is almost a cliche to suggest that the instruments ostensibly measuring creative thinking are evaluating factors other than those assessed by standardized intelligence tests. This, in fact, seems to be the case. However, great caution should be exercised in interpreting results from these instruments and in suggesting that they are evaluating primarily creative thought. Let me remind you that validity studies are relatively nonexistent, particularly content and external validity. In fact that the study reported here hints at a possible difficulty related to external validity in that substantial differences existed between the gifted and normal children in the correlations between those variables covaried and the creativity variables; indicating that generalization ability to various populations may not be as powerful as we would like. Further, let me remind you that very few researchers have been able to replicate the factor analysis studies from which this area of investigation has blossomed. Finally, it is almost embarrassing to admit that we still do not have a generally accepted definition nor a systematic theoretical position to which we can relate research in creativity.

Yamamoto has described this area best when he claims that creativity reminds him of an iceberg, i.e., it is easier to discuss than to observe.... because two-thirds is not even visible.

HOMEBOUND AND HOSPITALIZED

ADMINISTRATIVE PROBLEMS WITH THE CHANGING ROLE OF THE HOME AND HOSPITAL TEACHER

Martin J. Dean
Richmond Barbour

Once upon a time long, long ago, home and hospital teachers worked with children with a relatively small number of different illnesses and/or diseases. Their assignments generally were considered to be long term with the children whom they helped, and the children were relatively few in number.

Slowly, gradually, doors were opened - some medical, others were the closet type. As the medical doors were opened, the long term patient on home instruction diminished. In his place came other children with shorter term illnesses, diseases, and injuries. The home teacher suddenly found herself in the position of ringmaster on a merry go round, taking children on while letting others off, and sending them back to school. She found herself continuing to help graduate students but, gradually, instead of the child being a postpolio or severely cerebral palsied child who was graduating, it was an unwed mother or a child in a hospital as a result of a severe automobile accident.

Then closet doors began opening - out came children with diseases generally kept quiet. Among them were the social diseases, the varying degrees of mental illness. Home teachers were asked to add this last group of youngsters to their case load. They wanted to, but, by this time, some were suffering from what is known as "hardening of the categories," and they felt that this was one category they might not be able to absorb. This is where our story begins.

The Problem Defined

Until very recently, children with neurological or emotional handicaps were not eligible for home instruction. With the passage of a recent law in California (Assembly Bill No. 464, 1963 Regular Session, California Legislature), however, school districts were given the opportunity to meet the needs of these children, while receiving a significant amount of reimbursement from the state for conducting the programs. For the children who qualified, this meant continuation of their education as opposed to possible exemption or suspension from school; for teachers of the home and hospitalized, this meant a new dimension for the service which they provide.

Although San Diego had been providing a classroom program for these children thirty years before legislation was passed reimbursing districts for these classes, children were not served under a home instruction program. Here is where the first major problem was encountered. The definition of eligibility was vague, and home teachers were approoriately apprehensive. It certainly pointed up the need for a close working relationship between local school districts and the State Department of Education, particularly as it relates to the writing of rules and regulations growing out of the passage of new education bills or laws. Whereas the law stated that a child must have "a marked learning or behavior problem or a combination thereof" to be eligible for this program, the rules and regulations written by the State Department of Education stated that an educationally handicapped minor, to be eligible for admission to a program, must be one whose learning problems are associated with a behavior disorder or a neurological handicap, or a combination thereof, and who exhibits a significant discrepancy between ability and achievement.

The problem, therefore, became one of determining the extent of the learning disability, for the emphasis was on remediation of academic skills; and this probably as it should be in the schools - a concern for the three R's. It was found difficult to separate the two problems, the learning problem and the behavior or neurological problem, and treat them separately.

To assist in determining eligibility for the program, each educationally handicapped minor had to be identified and screened by a number of professionals following steps prescribed by the California state department. Exhaustive workup procedures in processing referred youngsters were required.

In the past, if a child were mentally ill, and certified as such by a physician, he was not eligible for home instruction. The school had to attempt an academic program within the school setting and, too often, these youngsters were placed in a program where they were neither wanted nor eligible. In most states, a child was able to recieve home instruction only if he were incapacitated because of medical reasons due to physical illnesses or disabilities. The neurologically impaired and/or the mentally ill ultimately were exempted or excluded from school either by the school officials or out of desperation by their parents.

Although the law now encouraged instruction of the children, home and hospital teachers were apprehensive about accepting these pupils. The feeling that generally prevailed was one of despair before even seeing the child. "After all, if the child cannot profit in a regular class, or even a special class of eleven, how do they expect me to help him?" Of - "If they can't handle him in school, what do they expect me to do - chase him around his house to cram down a lesson or two?"

Who, then are the educationally handicapped now eligible for home and hospital instruction? The first group are those who exhibit a behavior disorder and who have been referred to from time to time as emotionally disturbed, socially maladjusted, problem children, and numerous other terms placed upon them by society. Last year, three-fourths of all the children served by school districts in California under this new law fell into this general behavioral category, the other 25 percent of the children who were in these new special day classes or receiving home instruction, were labeled neurologically handicapped (Kantner, 1964).

The term used to identify the child should be of concern to us since terms tend to elicit certain responses in the minds of both teachers and school administrators as they discuss a child beset with problems. Most teachers of the homebound and hospitalized have had some training in the education of orthopedically handicapped children and medical terms, generally, do not frighten them. The term, neurological, however, can be somewhat foreboding and may elicit responses such as "how brain damaged is this child?" or "what kind of central nervous disorder does he have?" or "I wonder how much this damage will impair his learning ability?" The term, emotionally disturbed, or behavior problem may elicit such responses as " - but I'm a teacher, not a psychologist or social worker." Another response might be "most of my children have been only too happy to see me - what kind of reaction can I expect from this child?

By using a term such as educationally handicapped, we have focused the attention on the learning disability, and we look at the whole child rather than a label or category. Although it is true that teachers are not, and should not attempt to be, psychologists or social workers, nevertheless it would be of immeasurable advantage if home teachers would know of the unique problems with which these children are faced, and their attempt to get along daily in a world that appears so frustrating to them. Most home teachers have excellent training and understanding of orthopedically handicapped youngsters. They understand medical terminology used in the therapy prescribed even though they plan no direct role in such therapy, per se. Now there is introduced new medical terminology to the home teacher, coupled with psychological pedagogics, which leaves many teachers both bewildered and frightened when assigned one of these pupils. This, perhaps, was a second problem: the lack of adequate training and experience in this new area of education for the teacher of the homebound and hospitalized.

A problem which seems to be unique in California is one which the legislature created: new programs are authorized or mandated before asking colleges and universities to plan for the training of teachers for these programs. The advent of this new law for the educationally handicapped produced a case in point. School districts now had the opportunity to serve these children, but had no one specifically trained to do so. There is no certification required, at the present time, to either teach a group of neurologically handicapped children in a classroom, or a child suffering an apparent severe emotional handicap, at home or in a hospital setting. College course offerings are, at best, meager and theoretical. There is an attempt to overcome this problem through inservice training of teachers within the framework of the professional growth program. These voluntary meetings are attended by over 90 percent of the teachers in these programs.

Last year, in San Diego, home teachers worked with 37 educationally handicapped youngsters, either at home or in a hospital setting. One home teacher, a man, had 12 of these students for greater or shorter periods of time during the year, and worked with them in the psychiatric unit of a local day care treatment center. His year-end reports indicate significant academic progress with approximately two-thirds of the students with whom he worked. He attributes a great deal of this success to the psychiatric treatment the youngsters were receiving while he was working with them academically as a hospital teacher. The remaining 25 pupils who were eligible for home instruction under this new state law received their instruction at home and, if it had not been for an opportunity to receive instruction under this new law, these pupils undoubtedly would have been cut off from a school contact entirely. Whereas approximately one half of these youngsters were receiving psychiatric treatment while at home, the others were not, for varying reasons. All pupils made some progress academically. Most were re-admitted to San Diego schools this past fall in one program or another. These programs include classrooms for the neurologically impaired, classrooms for children with severe learning problems or adjustment classes. A few, at the secondary level, were returned to their regular classes. It is hoped that those who were returned to school through special kinds of class programs will ultimately return to their regular classrooms.

The third problem confronting the home teacher who attempts to include educationally handicapped in her case load of physically handicapped children is the shifting of schedules often required, the necessary shifting of approaches, and the need for contact with professionals heretofore generally regarded as members of the team but whose services were called upon very infrequently. Above all else, the home teacher who works with educationally handicapped children must have the support of the other disciplines on the professional team and must consult with these members of the team more than she has ever been required to consult with any other staff member in her dealings with home instruction. Although each child has had a thorough psychological workup, and in many situations were visiting teacher cases, reports from these disciplines mean relatively little unless discussed in a face to face conference. Equally important is the need to know some of the things to avoid doing or saying while in the home. This is an uncomfortable situation for many home teachers, one with which they are not familiar and, for the most part, dislike.

Despite the problems stated, many favorable results have accrued as a result of this new law (Rafferty, 1965).

1. A significant number of children are now being given an educational opportunity more appropriate to their needs, and this number promises to increase substantially in the years ahead. Many of the children being aided have had their failure patterns reversed and may be prevented from becoming school dropouts with concomitant problems to society.

2. A new awareness of learning disabilities has been stimulated in school districts, among teacher training institutions, and among other professional groups, such as medicine.
3. Children remaining in regular classrooms after the removal of educationally handicapped pupils, have had their education progress facilitated as the result of (a) teachers being able to devote more time to the class as a whole, and (b) pupils having a more orderly climate for learning.
4. The variety of provisions allowed for pupil placement (home and hospital, small group, special class, etc.) has assisted districts greatly in developing programs based upon individual pupil needs.

The way in which the curriculum is presented is primarily an educational problem. Skill in developing teaching techniques for these children will be related to the teaching ability of the teachers. Much needs to be learned about effective curriculum for the educationally handicapped child. There is the additional question of the extent to which the neurologically handicapped child and the emotionally disturbed child will profit from different teaching techniques and curriculum (Kantner, 1964).

Administrative Approaches

In San Diego, there is presently a staff of 14 full time home teachers. The advantages and disadvantages of having a few of these teachers take special training in the area of the neurologically handicapped and emotionally disturbed have been debated; these few would work with pupils eligible under programs for the educationally handicapped. This would mean a few teachers only would work with these pupils but would have to cover the entire city school district which, by the way, is the fourth largest, geographically, in the country. Conceivably teachers would be spending more time on the road than giving instruction in a given day. It has been decided to have all of the home teachers serve those educationally handicapped children who fall within the area which they serve. It is true that the qualities most essential in teachers of these pupils cannot be developed through training along (Thompson, 1964). However, teachers of the homebound generally have the sensitivities, characteristics, and qualities necessary to handle delicate situations and children with unique problems. Therefore, this all-staff approach is being used at the present time. Teachers of the hospitalized are now serving children in day and residential psychiatric treatment centers just as they have served orthopedic and tubercular children in the appropriate hospital in the past.

A new dimension to be explored is the possibility of home instruction through use of the speaker phone system, appropriately labeled, teleteaching, by the Los Angeles school district. At the present time, up to 15 physically handicapped pupils can be served at one time with one teacher, using this approach. A plan to investigate the possibilities of giving instruction to some children who qualify for programs for the educationally handicapped through the use of this approach is being considered. This would allow pupils to have contact with one another through the use of the speaker phone system without being in close proximity to one another, thereby eliminating the explosions which occur through physical contact.

The door has been opened for the continuation of instruction of children heretofore generally barred from instruction by a public school teacher. With the advent of legislation similar to that which has been passed in California, opportunities for teachers of the homebound and hospitalized will be expanding rather than narrowing as they had during the past decade. There will be a general softening of the categories and instruction; an education will truly be available for children with all handicaps now.

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PLANNING EDUCATIONAL PROGRAMS AT THE POST-ELEMENTARY LEVEL FOR SEVERELY CRIPPLED CHILDREN

Dorothy B. Carr

There are very few post-elementary programs for severely crippled children throughout the nation. Most of these programs are located in large urban areas, and such programs are provided primarily for pupils of normal or above average intelligence. It must be assumed that in other situations the most able pupils have attempted to integrate into regular high schools programs, while the least able pupils have dropped out of school. A small percentage of pupils continue their education by means of home instruction programs. Other pupils receive additional education through limited programs offered by private agencies. However, in some states, post elementary programs for the severely crippled are increasing in number. Opportunities provided through federal aid to education may be a contributing factor to the expansion os such educational programs.

Review of the literature revealed very little has been written conerning educational programs at the post-elementary level for severely crippled children. A limited amount of research has been concerned with the problem of employing the handicapped.

This presentation is based upon discussion with administrators of existing programs for severely crippled children at the post-elementary level and from readings that have been adopted to the needs of such severely crippled children.

Discussions with administrators of existing programs at the post-elementary level reveal problems exist when attempts are made to provide a regular secondary school program for the small number of secondary aged children in a facility that is more suitably planned for the education of the handicapped. The small number of pupils enrolled prohibits the development of a comprehensive science program or provision of advanced subject classes. Teachers are required to teach a wider range of the academic subject to pupils in the same classroom. As a result, there are also problems of accrediting of secondary educational programs by State Board of Regents, or similar accrediting agencies, for college entrance. Other problems include the fact that frequently pupils are transported great distances to attend such schools. The few schools providing prevocational training do not have satisfactorily articulated programs with either further vocational training or employment for pupils after leaving the school program. Adult education programs for the handicapped are very scarce.

Lest this description of problems in some of the present programs sound too negative, it is important to note that administrators of such programs are making continuous efforts to more adequately meet the needs of pupils. Studies by Mase (1961) and others have indicated that increased educational opportunities definitely benefit the handicapped pupil, both in potential of success in employment and adjustment to society.

An initial step in planning any educational program is to establish an acceptable philosophy or point of view for the development of such a program. The basic premise of this presentation is the recognition of the dignity and worth of every individual and his right to the optimum educational opportunity from which he can benefit to help him ultimately make a satisfactory adjustment into the community in which he will live.

In planning an education program at the post-elementary level for severely crippled children, it is assumed that planning will be based upon articulation with a good elementary school program for the handicapped. Knowledge from public and private agencies within the community in the fields of health, welfare, and vocational rehabilitation, as well as from educational programs for the nonhandicapped also should be considered. Such agencies can provide helpful guidelines for establishing objectives for the educational programs in order to help pupils make as satisfactory an adjustment as possible into the community in which they will live.

Information used to develop good elementary school programs, e.g. a study of the types of children to be served, consideration of normal growth and developmental factors, and knowledge of the attitudes and expectancies as well as potential assistance of persons and/or agencies within the community also will be helpful in planning the program at the post-elementary level.

As stated earlier, there will be several levels of learning by handicapped children, and the educational program must provide for these variances. A resource teacher in the regular school to help the handicapped child who is capable of receiving his education with nonhandicapped classmates may be the ideal program for such a pupil who seems to have minimum adjustment problems.

In urban areas, special day classes are provided for the more severely handicapped who require additional special services. There is usually a need to provide more than one type of special day class in the post-elementary educational program. One group of more capable youngsters preparing for higher education may cope with higher levels of learning that require much reasoning and application of abstractions to creative new areas of study; while another groups whose highest capacity for learning is at the input and retrieval level, to borrow an expression from our computer colleagues, may benefit most from early prevocational plans to guide them into the most appropriate instructional program.

Educational planning for the long term homebound and hospitalized pupil also must be provided in comparison to the weekly visit of a home teacher. An improvement has been the installation of a group home to school telephone instruction. In California such an educational program is known as teleteaching. It is possible for the teleteacher to instruct all of the pupils at one time, or in groups, or individually as indicated. Pupils may respond to each other as well as to the teacher. New, improved telephone equipment has recently been developed that provides programed tape instructions by phone for one group while the teacher instructs a second group simultaneously via the teleteaching equipment and the third group is completing a practice exercise at home. Such a program provides as nearly as possible the closest opportunity for a situation similar to classroom instruction for the homebound and hospitalized who are unable to attend special day classes.

The importance of counseling for the handicapped at the post-elementary level can not be over emphasized. Williams and Contino (1959) suggest three types of counseling are needed at this level. The first type of counseling is to determine the emotional adjustment, the intellectual level, academic and other achievements, interests and aptitudes. The second type of counseling is to evaluate prevocational testing, and practice tryouts in simulated work situations. The third type of counseling requires extensive knowledge of community resources. The last counselor can also serve as a referral and placement specialist.

In proposing a total program for the needs of the handicapped, duplication of services should be avoided and economics of money, personnel, and time should be accomplished. Studies in related fields have indicated the greatest duplication occurs in diagnostic services between agencies in the community and schools, as well as concerning pupils transferring from one school district in the county to another. A data bank approach to the dissemination of diagnostic information as proposed by Tondow (1964) could provide a quick and comprehensive report of previous diagnostic studies and accumulated pupil data for the first type of counselor, mentioned previously.

The second and third type of counseling could be implemented if pupils had an on campus work experience early in the post-elementary level, part time off campus work experience approximately midway in their post-elementary educational program and ultimately a complete transition to the community as they approach completion of their formal schooling. Such programs have been developed in related areas of special education in Texas and Oklahoma.

The primary role of the schools is the provision of the educational program. In special education, the schools frequently have tried to meet many of the health, welfare, and rehabilitation needs of pupils. Costs of such supplementary services have come from state general funds allocated to schools. Occasionally, such costs have created deficits in excess cost reimbursement funds ofr educating the handicapped. A study of agencies in the community, and services such agencies are able to offer, followed by cooperative planning for a total program for the handicappped, might be both a more economical and efficient way to provide a total program for the handicapped.

In summary, planning the educational program at the post-elementary level requires a creative, imaginative approach to instructional program development. Constructing a curriculum framework that includes the use of available data from previous schools of the pupils involved, as well as information from the community, and from research should provide a practical beginning for such curriculum development. Involving many of the teachers in the construction of instructional program via ongoing, inservice opportunities will be beneficial both in upgrading the teachers' knowledge of curriculum development and through stimulating personal interest in the project. Such teachers are more likely to follow the resulting recommendations. It must be concluded that the best possible instructional program planning will only succeed in direct ratio to the competency and quality of presentation of the individual teacher in the classroom.

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ROLE OF THE SCHOOL SOCIAL WORKER WITH HOMEBOUND PREGNANT GIRLS

Dorothy Durham

Overview and Philosophy of School Social Work

The purpose of social work in the schools is to help the child who because of social, emotional, or economic problems is not using his learning capacities to the fullest. An important aspect of this service is the emphasis placed on the preventive nature. School social work offers a helping hand to those children who are facing emotional crises in their life. Social casework helps the individual overcome difficulties now in order to prevent greater difficulties developing later.

School social work calls for personnel skilled in the knowledge and understanding of the principles of child growth and development and the dynamics of behavior. It requires a person with the ability to form trusting relationships with children so that they may work out problems that are interfering with their learning. The social worker must be able to form satisfying working relationships with school personnel and parents who are also interested in children having a good school experience.

Some of the problems that are affecting the child's school adjustment may call for additional help from a community agency: for example, financial problems, need for medical care, foster home placement, severe emotional disturbance of child and/or parents, and as stressed in the paper, pregnancy. In such instances the school social worker helps the parents use the appropriate agency and serves as a liaison between school and agency. In summary, the school social worker's chief functions are: (a) Casework services to the child having difficulties in school; (b) Interprofessional relationships with the teacher and other interested school personnel; (c) Casework services to parents focusing on the child's school problems; (d) Cooperating with other social agencies.

It is most important in working with the homebound, pregnant girl that the school social worker have a keen sensitivity to people and the skill to develop a satisfactory relationship. Through the casework relationship, the social worker neither condones nor condemns but accepts the pregnant girl as an individual with strengths within herself as well as weaknesses. The social worker believes in the inherent worth of every individual and that every person has within himself some strengths and power for growth and change. The social worker also believes in self-determination, recognizing the right of the individual to make his own choices and decisions consistent with his capacities.

Social Services Offered the Pregnant Girl

First will be presented specific ways in which the school social worker works with the homebound pregnant girl, to be followed by vignettes to better illustrate the service. When a pregnant girl has been referred by the director of special education for homebound instruction, the school social worker makes a home visit. This visit is not just to collect information for a case history, but it is rather an experience made up of the interaction of two or more personalities. The greatest value is in the relationship the social worker develops in the home while he is there; what the social worker puts into the visit may be the determining factor in further work with the child and home and school. It is important to get the parent and child's story of the situation told in his own way. Equally important is a clear explanation of the situation as the school sees it, together with an interpretation of the school's policies and practices as they affect the child. An interpretation of the child's needs is given and the offer of the social worker to be of help.

Consultation With Homebound Teacher

The school social worker and the homebound teacher work closely together sharing information which will help each work more effectively with the pregnant girl. The social worker must decide what information would be useful to the teacher and also know to some degree the teacher's capacity to use such information for the benefit of the child. The homebound teacher recognizes that her role is to teach, but she is in the same position as any other teacher to identify emotional problems and therefore consult with and refer to the social worker. When the homebound teacher observes such behavior as frequent crying spells, hostile outbursts, sloppy personal appearance, and lack of concern over school work, she consults with the social worker who will plan to offer services on a regular basis or refer to a community agency.

Liaison Between School and Community Agencies

The school social worker not only helps work out the school program and offers her services to the pregnant girl, but in conferences with the girl and her mother, advises them of community agencies which can help with prenatal care, financial assistance and counseling in relationship to the pregnancy and placement of the baby. The school social worker is aware that she should not put pressure on a pregnant girl to go to a social agency as the girl may fear that she may be deprived of the very thing she feels she needs--the baby. Pregnancy is symptomatic of and accompanied by other problems with which the unmarried pregnant girl needs help. Therefore, it is important that, in initial contacts, the social worker must be alert to opportunities for helping in various ways.

Common Problems of Pregnant Girls

Unmarried pregnant girls often approach the helping sources with protective devices and mannerisms. Because of their guilt feelings, the attitude of their parents and the culture of the community, they often present themselves in a poor light. Their feelings of worthlessness may have been reinforced by the reality of rejection or desertion by their parents and the fathers of their babies. The married girls who may have married because of pressure from their family or their husband's family, may have the same feelings of worthlessness or anger at being forced into a role of wife and mother which they are not ready to assume. So the homebound teacher and social worker see these girls with facades of anger, suspicion, flippancy, pseudosophistication or overly compliance, too agreeable, helpless or very dependent.

The Case of Laura

Laura Appleton, a seventeen year old white senior girl referred herself to the school social worker, requesting homebound instruction and help with problems regarding her pregnancy. Laura had received social casework during her sophomore and junior years around relationship problems with the parents and her younger sibling. Laura felt that her mother favored the younger sister and with Laura was unduly strict and punitive. Laura saw her father as more understanding and supportive. Since Laura had experienced a good relationship with the social worker in the past, she felt that she would again be understanding. Laura had been happy in school and wanted very much to complete her senior year and had planned to enter nurses training after graduation. Now she was wondering if this would be possible.

The putative father who was attending a college in a nearby town, wanted to marry Laura and Laura felt she was in love with Jim. However, Jim's parents so bitterly opposed the marriage that Laura and her parents did not wish to exert any pressure. Naturally, Laura felt the rejection keenly and had feelings of worthlessness, guilt and anger. Mr. and Mrs. Appleton, Laura's parents, were quite angry over the putative father's parents' attitude and felt that Laura should place the baby. They, through the previous years of counseling, had become much more understanding of Laura, but this experience confirmed their earlier feelings of not being able to trust Laura and that the younger daughter was a more stable moral child. Laura's feelings of her parents not understanding her and, her mother's feelings of preference for her younger sister were reactivated. Mr. and

Mrs. Appleton also requested the services of the school social worker to help them work through the problems with which they were faced.

Homebound instruction was approved since Laura had a B average, was motivated to return to school and parents were agreeable in providing an adequate place for study as well as supervision in the home. The home situation was at first very tense. The homebound teacher reported that Laura's eyes were often swollen and red from crying, she was not working at B level in her subjects and often expressed her feelings of "what's the use of trying." Laura remained adamant not to place her baby.

The school social worker felt that a referral to a social agency was indicated but realized that it could not be rushed because of the conflict between mother and daughter regarding placement of the baby and their reluctance to confide in strange people.

Mr. and Mrs. Appleton on their own initiative did contact their attorney and their family minister. Fortunately the minister and the attorney were well acquainted with the problems of the unmarried mother and her parents and the need for casework services. They very skillfully advised the parents not to force Laura to place the baby and not to demand child support from the father but encouraged the parents to talk over their problems with Family Service. The school social worker supported the minister and attorney in their recommendations and helped the parents accept referral to Family Service. Since the school social worker had a good relationship with Laura, she continued to work with Laura. The social worker at Family Service and the school social worker consulted frequently with each other.

The parents and Laura had a good verbal-action tolerance and were motivated toward change so that the home situation became less tense and they were able to evaluate with some introspection what this experience meant to them. As a result of working through this emotional crisis, Laura was able to place the baby for adoption and became more motivated toward learning. Her personal appearance improved and she again began to feel that she was a worthwhile person with a future. The parents were able to take a more positive attitude toward Laura and help her plan for the future. After the birth of the baby, Laura was returned to school and was graduated with her class. The social adjustment back to school was not too difficult as Laura had always been well accepted by her peers and teachers. Soon after graduation, the Appletons, who had always moved frequently, made another move to a nearby town and Laura entered nurses training in Chicago.

A Group Experience

A school social worker was assigned to a project for dropout prone students. During the course of the year she worked with a group of three pregnant girls from low socioeconomic backgrounds. The meetings were held in one of the girls' homes. The group was set up to provide an atmosphere wherein the girls would feel free to express their innermost feelings about being pregnant, and the future care and responsibility of the child. The worker hoped to help them to plan constructively for their future life by making use of education and training in order to prepare themselves for a responsible place in the community.

In one session, the girls touched briefly on their own attitude and the attitude of others toward their pregnancy, their feelings toward marriage and education. Betty was outspoken and said people had said disparaging things to her and about her. She recounted an experience of one girl telling her that her mother did not want her to see Betty any more. In an angry, hurt voice Betty said, "That silly girl didn't have to come over, shouldn't have been over here anyway if her mother didn't want her to." Mattie, another pregnant girl in the group, said that people had said negative things about her, too. Sally denied that she had had any experiences like this. Sally added that she and Bob had planned to get married, "But we waited and then I got too big." She did not want to get married, because she couldn't get married in a white wedding gown. Betty tried to comfort her by saying that they made the dresses real big and she would probably just look fat. Sally said she still planned to marry Bob, maybe next year. Mattie said that K. D. wanted her to marry him but she would not because he had no high school diploma and she needed a diploma too, they would be starting off wrong. Also, she said that he slapped her and she didn't think she wanted to marry anyone like that. She explained that she wanted to finish school and get a job. Betty said that she didn't want to marry George because he was too attached to his mother and his mother did not like her. She expressed fear of George's mother and seemed to envy the other girls' relationships with their boy friends' mothers. This was particularly upsetting to Betty since she was having relationship problems with her own mother. Betty was the only one who was positive that she did not want to marry the father of her baby. All of these girls were motivated to return to school and did return to finish out the school year. Had homebound instruction not been given, these girls would probably have been school dropouts.

Pregnant Married Girls

The school social worker's role with the married pregnant girl varies from giving very little service other than the home study to intensive casework services. The pregnant married girls who have thought the role of wife and mother to be glamorous become disillusioned when body changes take place, financial problems arise which necessitates their living with parents, and their relationship with their peer group changes. These girls are often referred to the social worker by the homebound teacher because of their physical complaints, lack of interest in personal appearance and not maintaining an interest in their school subjects. Intensive social case work services are often indicated. The social worker also offers her services to the happily married couple whose families are on the surface supportive emotionally and financially. These parents are the ones who are often eager to have the reaching out of the helping hand of the school social worker, and are most appreciative of the homebound service for their daughter.

Conclusion

A team approach to the homebound program for pregnant girls is essential. No one discipline can meet the many and varied needs of the pregnant girl. Administrator, psychologist, social worker, doctor, nurse, guidance counselor, regular and special teachers, community agencies and clinics must work together for the best interest of the pregnant girl.

PUBLIC RELATIONS RELATIVE TO DOCTORS, NURSES AND HOSPITAL PERSONNEL

June P. England

> "Effective Public Relations demands two components: A good product or program, and an effective means of interpreting this program - its benefits and needs - to all persons in positions to support it" (Margolis, 1965).

To achieve effective public relations with hospital personnel requires a skilled and talented teacher. It is imperative that the teacher sees himself as a functioning person, with success in his background and an awareness of its importance in his future. He will be comfortable with his experience; derive confidence from it (Kelley, 1962). He will develop an effective program and his professional performance will interpret it effectively.

With this as a statement of philosophy, let us consider some of the factors which are basic in the hospital situation. We must first recognize that the student is hospitalized for rehabilitation (physical and/or emotional) which cannot effectively occur in another setting. The recommendation for hospital placement was made by representatives of the disciplines concerned. With the advent of antibiotics and other medical advances have come changes in prescriptions for patient treatment and care. The past ten years have seen the treatment of the rheumatic fever patient change from weeks in the hospital and months at home to a matter of several days. Equally dramatic are the changes in treatment of other mental and physical health problems. The modern day philosophy is to help the child learn to live as full a life as possible with his handicap while making every effort for remediation.

Understanding the foregoing assists us in perceiving the changed role of the teacher in the hospital setting. Certainly the physician has primary responsibility. As he plans for the patient he is cognizant of the other services required. These may include social service, nursing, education, and therapy (physical, occupational, and psychiatric). In the school setting the teacher is the primary person relating to the student. Social workers, therapists, nurses, and at times even physicians provide adjunctive service. In the hospital setting this is reversed and the teacher becomes part of the ancillary service. The educational program must be planned to fit in and around the services for which the student was hospitalized. Education can be an important part of recovery, since it is so much a part of every child's normal daily routine. The learning activities must respect the treatment schedule, must be appropriate to the learner, promote growth and improved self concept, and not cause tension.

Effective public relations with all concerned will accrue in direct relation to the professional performance of the teacher. This causes us to contemplate the ingredients of professional performance. Dr. Paul Mitchell, Director of Personnel, Scarsdale Public Schools, New York, indicates three essential concepts in the 1965 Pi Lambda Theta flier:

> "First, the professional is a person who, through recognized study and experience, has gained an exclusive body of skill and knowledge which is not a part of public skill or knowledge...to be a professional one must be able to perform within his profession at a level which is demonstrably higher than that possible to the lay and sometimes well-educated public.
>
> Second, by reason of his special training and experience, and in order to maintain and advance the standards of his profession, the expert must assume responsibilities for evaluation procedures which cannot sensibily be expected of, and, in fact, should be resisted by, those outside his profession. The professional is responsible but not accountable to the client.
>
> ...it is my contention that the title of professional should be reserved for those who meet the first two concepts and whose contribution to society is, in general, greater than the tangible rewards they receive."

The degree to which teaching has achieved professional status is still a topic for debate. Certainly the opportunities available each day to the hospital teacher to perform as a professional are unique. These opportunities can result in effective public relations and acknowledgement of a place for teaching among the recognized professions. It is the responsibility of the hospital teacher, as it is of any representative of education, to perform at the highest level of capability.

In pursuing the daily activity within a hospital, the teacher is confronted with the reality of many demands. It takes skill to plan a program around treatment schedules which provide appropriate educational experiences for the patients. There are those who say, "just give patients something to do" (Tarbolton, 1965) or "a coloring book will keep them happy." Still others expect all counseling of parents belongs to the teacher. Not too many years ago all of these activities might have been carried on by the teacher (Frampton and Gall, 1955). Recently, however, relatively clear definitions of the roles of the various disciplines have emerged as hospital teaching has become recognized as an important part of total patient rehabilitation.

Today's hospital teacher will perform with quiet assurance in the following ways: (a) Communicating appropriately with hospital, school, or other agency personnel as the situation requires (England, 1961); (b) Accepting his share of responsibility in the plan for recovery of the patient; (c) Utilizing his knowledge and skill in the most effective manner; (d) Appreciating the concern of parents for school achievement while helping them understand it may not be the most important factor at this time; (e) Interpreting the goal of the educational program and its relationship to the other disciplines involved; (f) Respecting the role and contribution of each discipline; (g) Receiving respect from each discipline through consistent professional performance.

In conclusion, public relations appear to be all pervasive whether planned or by chance. The effective hospital teacher will have a philosophy for working which he can readily interpret. He will maintain excellent public relations through his consistently high professional performance. The teacher will make his fullest contribution to the total rehabilitation team when he is comfortable in the knowledge of his capability and utilizes it wisely in working with all hospital personnel.

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THE ROLE OF THE SPECIAL TEACHER IN THE TEAM APPROACH TO THE EDUCATION OF SCHOOL-AGE PREGNANT GIRLS

Gay B. Ernsberger

The General Program for School-Age Pregnant Girls in Los Angeles

The teachers are home and hospital instructors whose school home base is Widney High School, special school for the physically handicapped, ninth through 12th grade, with an enrollment of approximately 205 in actual attendance at the school, with 412 additional students who are homebound or hospitalized, including the pregnant girls at the three maternity homes and the one health center:

65 at Booth Memorial	3 teachers
25 at Florence Crittenton	1 and one-half teachers
55 at St. Anne's	2 and one-half teachers
42 at the health center	1 and one-half teachers

89 pregnant girls receiving home or telephone teaching out of a total of 136, excluding the hospitals and center, with six home teachers.
83 on waiting list for home teaching; 71 are cyesis.

The teaching time of the homebound student is one hour per week, with credit for two high school subjects and physical education, in contrast to the three or four subjects in daily class attendance for the girl in the maternity home or the health center.

The girls are referred to the home teaching or the health center programs by the girls' vice principal. A city school medical exemption form must be signed by a doctor, indicating a cyesis diagnosis. The vice principal's recommendation is based on the girl's attendance record, recency in school, grades at time of leaving, and citizenship record. No repeat is accepted in the health center class. Sheer number prevent the acceptance of all the pregnant girls; in 1964 there were 537 records of pregnant girls in Los Angeles city schools, with no way of checking the over sixteen dropouts; probably 50 percent of these were pregnancies.

The Nature of the Special Class at the Health Center

Setting: The classroom is in the city, in a Los Angeles County health center, with desks, cupboards, books, typewriters, and sewing machines furnished by the city school district. The girls come and go daily, with four to five hours in attendance.

Reasons for establishing the class: (a) Economy--more hours, better services for no additional cost to the school district; (b) Formal education is continued with minimal interruption. There is less chance of a dropout and better adjustment upon return to regular school; (c) Recent pronounced increase in numbers; (d) Extension of incidence of pregnancy into early teenage years; and (e) Obvious needs of these girls in the areas of child and maternal health, mental health, and social assistance.

History: Agencies and personnel involved in the various services of the total program coordinated efforts and the class opened in 1962. The committee, which has met monthly since the class opened, includes representatives from: Los Angeles Board of Education; Welfare Planning Council; Los Angeles City and County Health Departments; Adoption agencies; Community centers; Los Angeles County Probation Department; Los Angeles County Bureau of Public Assistance. Since September 1962, about 240 girls have been enrolled. Attendance is somewhat permissive, with excused absences for medical appointments and delivery; however, the girls do not like to miss school. They appreciate the class and enjoy the company of the other girls. Average attendance is 25 girls each day. Regular school curriculum is followed, with different subjects scheduled daily. About one-fourth of the girls are married; a few marry after entry. This year most of the girls are twelfth graders.

The Team Approach at the Health Center

A social worker meets weekly with the girls as a group for one hour and may be seen at individual appointments, providing an opportunity for the girls to express their feelings about their situation, to examine the why of their behavior, to think about their responsibility and how they will handle it, and to have their questions considered frankly and intelligently.

A public health nurse visits an hour a week, answering questions, giving demonstrations, stressing nutrition and physiology, including menstruation and maturation processes, the effect of pregnancy on behavior, family adjustment, mother-parent-wife roles, using films of childbirth and venereal disease (e.g. "Dance Little Children Dance"). The Public Health Nurses are there for individual conference and for home visits, if necessary.

Maternity clinic facilities, as well as mental health services, are available at the center for the girls enrolled in the class.

A home economist from a nearby community center comes often to counsel informally on food values, budgeting, and nutritional needs during pregnancy.

Outcomes and Future Plans

1. As a result in this team approach the girls realize that responsible adults in the community are interested in them, concerned about their problems, and are accepting in their attitudes toward them.

2. The girls help one another in many tangible and intangible ways. There is psychological relief in knowing that there are other girls in the same condition as nice or as good in school or as loved or as rejected as they.

3. The coordinating committee, observing the program closely since its initiation, is impressed with the success of the endeavor and is aiming and working toward the establishment of similar classes throughout the health district, with a projected plan that would include mobile classrooms to be erected on parking lots of health centers with no building room facilities. It is the committee's conviction that partnership with the health department is not only logical but of crucial importance in making possible the integrated program which is the goal of the project.

4. Possible use of the school public health nurse for followup home calls.

5. The health center's medical director is making a study of the incidence of premature births in the deliveries of the girls in the project in order to ascertain the health value of class membership, with its attendant prenatal care. On the average, the girls enter at the fifth month of pregnancy; a few at the third month; prenatal care coincides with admission to class.

6. Possible use of antipoverty funds for prenatal care, teenage problems, family planning, vocational employment, day care programs for babies of mothers who sincerely desire a diploma or vocational training.

7. Interest of other communities - Pasadena, Chicago, Washington, D.C.

8. This approach is one step forward in a community effort to help youth meet the problems and challenges of living; in this class there is the potential for the fullest realization of preventive medicine and preventive social dependency through better health and better education.

The Teacher's Role in the Team Approach

She not only counsels, checks, administers, programs, and teaches; she is aware of the "specialness" of the class--a group of girls set apart by society. She needs to be sensitive to their feelings, problems, needs. She must be accepting and understanding. Anything she can do to help the girl with her special problems is within the scope of her role as the teacher. Because she cannot be a specialist in all areas where help is needed, she must be cognizant of and knowledgeable of the disciplines involved in the team approach, willing to accept aid, welcoming assistance from many sources, referring girls to where help may best be given, making followup checks to be certain the girl is helped. She must be a person who can always find the time to help. She must make the girls' needs known to other members of the team. She must be willing to proselytize in their behalf, in community groups outside the team. She must welcome visitors to the class as a means of demonstrating the worth of the project.

She must set an example as a woman - one who engenders admiration, respect, and emulation. She must be warm and gentle, but quietly firm in her approach. She must exemplify fairness, patience, and consideration for all the girls, encouraging each one to do her best, to look her best, and to act her best. Her girls should feel comfortable and at home in her class, close to the teacher, who is a mother figure in the best sense of the word.

A TEAM APPROACH TO THE EDUCATION OF HOMEBOUND PREGNANT GIRLS

Merle B. Karnes

Whether a pregnant girl is wed or unwed is not a criterion for determining her eligibility for receiving home instruction in the Champaign Schools. The moral issue plays no role in decision-making regarding the provision of this service. Pregnancy is considered a physical handicap which prevents a girl from attending school for a period of time and is handled in much the same way as any other applicant for homebound instruction.

The recognition of the worth of the individual; the commitment to meeting the individual needs of pupils; the awareness of the importance of continuity in a girl's educational program as related to her mental health; and cognizance of the need for increasing the holding power of the school and encouraging the pregnant girl to complete her education are some of the components of a philosophy for providing home instruction to pregnant girls. It is felt that the girl's future may very well hinge on the extent to which the school is able to rally its resources and assist the girl at a time when she is in great need of understanding, support, and assistance in continuing her education.

Source of Referral

The source of a referral for home instruction for a pregnant school age girl may originate from a number of sources such as the dean of girls, a school counselor, school social worker, teacher, principal, doctor, community clinic staff member, parents, or from the pregnant girl herself. The latter is the person who usually contacts the director of special services and makes the request. Most likely the service has been interpreted to her by a staff member of the school and she has been instructed as to whom she should contact to apply for the service.

Generally, it is felt that the pregnant girl who takes the initiative in requesting and working out plans for home instruction is possibly more motivated and more serious about completing her education than one who shifts this responsibility to another person.

Criteria for Eligibility

Home instruction is not automatically provided to every pregnant girl who requests the service. A thorough study is made of every case. The social worker plays an important role in gathering pertinent data which aids the director in making administrative decisions. Important information in determining eligibility are as follows:

1. The pregnant girl must be highly motivated to continue her education. It is

important to know how sincere the girl is about continuing her education. Also it is important to know what the girl's plans are after the birth of the baby and after home instruction is terminated. Who will care for the baby if she returns to school? For example, if home instruction is terminated after the birth of the baby at the middle of the second semester, does she plan to go back to school and finish the semester? If she does not, she will receive no credits and home instruction will not have accomplished its purpose. Sometimes the mother of the girl may be very eager for her to receive home instruction but the girl herself conveys little or no interest in pursuing her education. A social worker needs to explore her feelings about the matter. Certainly home instruction would not be forced on the girl just because of the insistance of the mother. Unless the girl is sincerely interested in receiving the service, the service is not provided.

2. The attending physician must sign the medical forms indicating that the girl is no longer able to attend school because of pregnancy but is physically able to have instruction in the home. In most instances doctors recommend that school attendance be discontinued at the fifth month of pregnancy. In some cases the doctor may recommend withdrawal from school at an earlier date because of complications. Customarily, the director discusses these cases with the doctor prior to arranging for home instruction. There have been a few doctors who have refused to sign the medical forms on the basis of questioning the advisability of using tax payers' money for educating girls who have gotten themselves in this sort of difficulty. Generally, the girls seek another doctor who is more understanding and supportive, if they are really eager to obtain instruction.

3. She must be mentally capable of profiting from home instruction. It is felt that average and above average intelligence are necessary to successfully profit from home instruction. The home instructor spends only one hour a day, five days a week teaching the pregnant girl. Experience has indicated that at least average intelligence is necessary for a homebound pupil to work independently and keep up with the work of her classes in school with the limited amount of time the home instructor is able to spend with her. If there is any question about a girl's intellectual status, she is referred for a psychological examination.

4. Her cumulative record should indicate average or above grades. Regardless of the intelligence of a prospective homebound pupil, if she has not been able to make good use of her ability while in school attendance, it is unlikely that she will be able to make any better grades in the home instruction program. The same factors associated with the poor academic record in previous years are likely present and will continue to promote underachievement.

5. The climate of the home must be such that an instructional program can be effectively carried on and one which is conducive to the girl's school progress. Usually the home instructor teaches the girl in either her parents home or her own home. The home must provide a room where the teacher can instruct the student without interruption or distraction. Likewise it is important for the pupil to have a quiet place to study when the teacher is not present. The progress of the pupil is contingent to a great extent upon how well she is able to work independently when the teacher is not with her.

6. She must be willing to devote the major share of her time to her school work. If home instruction is granted, the pregnant girl is expected to spend most of her waking hours studying and preparing her assignments. In a few instances pregnant girls have wanted to work on a part time or full time job. It was

felt for two reasons that this could not be allowed. One reason being that she would not be able to spend sufficient time studying and secondly, from the public relations point of view, the taxpayers and school critics would have a right to question the use of school revenue on a girl who was not interested enough in her progress to stay at home and concentrate on her school work. It does not make sense for a pregnant girl to be considered to physically handicapped to go to school but physically able to work outside the home during the last stages of pregnancy.

Administrative Plans and Procedures

Before home instruction is granted, the director must determine whether or not the pregnant girl meets the criteria that makes her eligible for the services. Once this is determined, the next step is to assign a teacher who has the personal qualities and professional preparation to effectively work with the pregnant girl. A teacher who is shocked or is prone to moralize is not a suitable person to work with such a homebound case. On the other hand a teacher who is sincerely interested in instructing pregnant girls, who possibly is a mother herself, who is warm, accepting, and understanding can be a vital influence in rehabilitating the girl. Certainly making it possible for pregnant girls to continue their education not only helps them progress educationally but seemingly has a profound influence on their social and emotional development.

Forms are sent to the student informing her that her home instructor will be contacting her to arrange for the service. The home instructor contacts the principal of the school or a person he delegates such responsibilities. In such instances it is necessary for the student to drop a course and substitute another if the course can not be taught in the home either because the home instructor does not have the specialized training in a particular subject or because it is not practical to teach the subject in the home. An example is a laboratory course in science.

The progress of the homebound girl is evaluated periodically by the home instructor working closely with regular teachers. Monthly progress reports are sent to the director and to the school. If for any reason the home instructor is concerned about the child's academic progress or about her physical, emotional, and social adjustment, the director may call a case conference. All those professional persons who have a responsibility for the child's school progress attend and share their observations and knowledge. Decisions are made to alleviate problems and/or strengthen the instructional program and services. The director requests that the doctor complete a form for terminating a case six weeks after the baby is born. In instances where the girl has been slow to recover, the doctor requests that the home instruction be extended. If this be the case, his recommendations are followed. A close contact is maintained between the office of the director and the doctor so that as soon as the girl is able to go back to school, home instruction can be terminated. The director is responsible for seeing that the quality of the instructional program is maintained, adequate records are kept, needed services are obtained, and that state standards are met so that the school will be eligible for state reinbursement for the program.

Role of the Teacher

The teacher must establish a good working relationship with the pregnant girl and provide her as nearly as possible with an instructional program comparable to what she would have had were she able to be in school. To do this, the teacher must keep in close contact with the regular teacher who had the student in their classes and with the principal. The teacher must keep the school informed of the pupil's progress and work together with the regular teachers in determining the grades that should be issued in the various subjects taught by the homebound instructor.

The teacher must not lose sight of the fact that her responsibility is teaching the girl, not counseling or giving medical advice. The homebound teacher is in a unique position to help the girl by referring her to other personnel in the school who have services to offer her. Likewise, the teacher can encourage the expectant mother to go to her doctor with questions of a medical nature that are bothering her.

Ancillary Services Available to the Pregnant Girl

There are a number of services in the school that can be made available to the pregnant girl such as social case work, psychological services, and guidance counseling. One of the most important services is that of the school social worker.

TEACHING TECHNIQUES FOR EDUCATIONALLY HANDICAPPED HOME AND HOSPITALIZED CHILDREN

Alice C. Thompson

Any discussion of teaching techniques with disabled children should be prefaced with the reminder that the ultimate effectiveness of any technique depends upon the competency of the teacher. A second prefatory point that may be overlooked under pressure is that the soundest starting point for any teaching procedure is the body of principle that has proved itself effective in all ranges of teaching. Techniques with unusual children are shrewd adaptations of techniques with the normal: content within the grasp of the child, materials with intrinsic interest, procedures that elicit his best efforts, appreciation when he excels, pleasure that shares his gratifications, composure that tempers his excesses, and repairs his dishevelment.

It is the task here to explore the margin of difference that is peculiarly applicable to the disabled child, and the twilight zones of nonlearning and unlearning. Normal children learn simply by passing through the familiar developmental phases of childhood many of the indispensables to life that handicapped children must learn by direction and effort. It is initially difficult for teachers to think in terms of how to encourage the development of skills that usually are acquired spontaneously: grasping, walking, distinguishing colors, using the eyes in harmony, forming particular sounds, maintaining attention, enjoying human association, and thousands of others.

Disabled children must learn by crude experience things that normal children may grasp through imagination, identification, and conceptualization. For example, the usual child can say, in effect, I imagine another's pain; I surmise his experience. The cognitive process of the disabled child is often too disorderly for these vicarious sorties. Furthermore, the disorderliness and disorganization appear to foster the learning of impedimentary material that may have to be laboriously unlearned before progress is noteworthy.

Disabled children must often learn by habit formation and directed initiation many things that normal children routinely learn through observation and rationalization. When the child is exposed repeatedly to dependable sequences in the environment, an expectation builds up that each facet of the sequence will follow. Gradually, by association, the child gains not only knowledge of the sequence but cognition with respect to the behavior appropriate to the sequence. This fusion process influences perceptual organization and learning (Tolman, 1945). Handicapped children may, however, require more exposure than normals.

The needs of disabled children are often definable principally in terms of physiological tissue states manifested in restlessness or excitability which the teacher must seek to eliminate or redirect. The more immobilized or disorganized a child is, the less well his activities can be defined in terms of effects or goals. He is constantly engaged in accommodating changing and even conflicting excitations: glandular, thermal, metabolic, neural, muscular, medicinal, and others. Each year increasing numbers of children with irregularities of behavior and learning are placed on psychotropic medications, with such varying and individual results that the teacher must be continually alert to the specific effects on the child before her.

The inability of many disordered children to operate in terms of deferred goals accentuates the importance of immediate reinforcement. Since most authorities limit the definition of learning to relatively permanent changes in behavior with practice or training as the essential condition (Kimble, 1961), the teacher must guard against mistaking episodic motivational and situational adaptation for learning. Only when the proposed learning is available and demonstrable on later occasions can the teacher feel secure in the child's achievement.

A wide variety of problems is encountered in the learning spectrum of disabled children: gross handicap; temporary conditions and convalescences; special learning handicaps; motor defects, speech defects, sensory deprivations, emotional deviations, behavior problems; and other conditions for which the school has no adequate program. There may also be the special feature of illness which the child uses obstructively. Complaints, whining, clinging, or dependency may be used excessively, although these qualities are certainly not restricted to the ill. The teacher must thread her way skillfully through these behaviors, giving rest periods where essential, but sensing intuitively how much may be expected.

Another special feature which must be assessed is the degree and kind of parent expectations. Parents may exert undue pressure, hold unrealistic goals, regard the child as a malingerer, a burden, a troublemaker, a pariah, a scapegoat. They may be demanding, impatient, resigned, anxiety ridden, overwhelmed; they may intrude or withdraw.

How is the child affected by these attitudes and expectations? Especially in conditions of long standing, the child will have developed his personal defenses: affected stupidity, excessive demands, dependency, passivity, babyishness, resistance, rebellion. More attention should be given to the probability that deviation from positive learning and maximal application is not just wasteful of time, but builds contrary and obstructive learning in itself. Learning is not necessarily constructive nor adaptive (Bush and Mosteller, 1955), nor is it synonymous with the abilities subsumed under intelligence (Woodrow, 1946). It is urgent that the child be constructively occupied at all times.

Disabled children have usually learned many things: how to manipulate the environment, how to get what they want, how to annoy and defeat others, how to evade discipline, to avoid family cooperation, exert tyranny, pit one individual against another, preserve frustrating food, sleep, and toilet practices. They may have learned when their favorite television programs are shown, have memorized the commercials, taken on mannerisms of their heroes, bargained for later shows to keep from going to bed, internalized countless details. Because these learnings seem useless, silly, or irrelevant, we tend to forget that they represent learning at all, and to neglect the strength of things which may have to be unlearned before progress is evident.

The importance of information as a motivating condition in human learning (Thorndike, 1938) has not been adequately appreciated by teachers accustomed to regard most children as fundamentally uninterested in learning. Teachers of disabled children find the apparent disinterest complicated by the presence of unconnected and fragmentary associations. Informations are poorly integrated into meaning or continuity and do not appear important or meaningful.

As dependent as the human being is on his estimates of what is important, it is not surprising that the disconnected, the episodic, the transitory elements of information and attitude into which the child is thrust by default should assume greater weight than the materials pressed by the schools. To be usable, materials must fit into his notion of the way things are. They must be not only perceptibly within his ability, but they must impress him as worth doing. The teacher's warm but almost inexorable control can then provide the thrust for achievement.

Almost absurdly simple is the principle that children should not be expected to do things which they cannot do. But tacit expectations of achievement which is either outright impossible or at very best statistically improbable go on continuously. Experimental work has demonstrated that stimulation for an act presented at a time when it is impossible to carry out the act, i. e. when the means of execution are absent or skills is undeveloped, results in the building of associations to something else. If the directions in which to turn attention away from the impossible act are negative and undesirable (e. g. boredom, passivity, dependency, disinterest, annoying or disturbing others, fantasy, acting out), the negative and the undesirable become more firmly associated with the presentation of tasks too difficult. The trend in behavior is thus to retreat progressively and with greater intrenchment into habits of disinterest and resistance.

The teacher of homebound or hospitalized children is faced with urgency to get a program going, in part because some lag must almost inevitably have taken place on account of the morbid condition, and in part to counteract the condition. The early phases of the program may consist largely in a mental health approach, because a positive cooperative attitude is likely to be somewhat difficult to elicit, and the initial dynamic interchange between teacher and child may establish the tone of the entire contact. Instructional materials fortunately can be instrumental in the success of the mental health aspects of the sequence. Disabled children are usually handicapped in both learning and emotional characteristics, and the teaching process becomes an exploration for avenues of reaching the individual child.

Because most children regard a first contact with a teacher as a test of adequacy, it is often wise to employ game type and get acquainted techniques that will explore a variety of perceptual, motor, sensory, learning, and conceptual skills which can tell the teacher a great deal about his level of development without running the risk of threatening him with school associated tasks which may represent failure. The learning efficiency of pleasurable-affect-associated experience is too well established to require defense.

Disabled children critically need an alter-ego, a guide and mentor who can be the second self when primitive and uninhibitable impulses sweep away integration; who can make decisions, cope with dangers, allay hostilities, make the necessary efforts. Otherwise, the child tends to settle into second class behaviors and satisfactions. Harry Stack Sullivan (1937) used the phrase "disjunctive motivation" to indicate the probability that the mechanism of children's most basic needs may be displaced from appropriate satisfactions toward substitutes that offer immediate though limited gratifications but no long run or stable learning values. Since assurance of personal adequacy depends in part upon the proportion (as opposed to the hypothetical absolute potential) of ability realized in action, and in part, upon the strength of the child's investment in the learning process, the urgency of having someone to fill vicariously the gaps in application cannot be overestimated.

Children vary widely in their capacity to resist distraction. In some cases of disability the incapacity may be largely a continually reinforced habit pattern which can be invaded by appropriate attention holding devices. In others, the distractibility will be deeply rooted in structural dysfunctions and will operate like an inner static in spite of the teacher's attempts to control it. This circumstance accentuates the need for many, varied, and brief attention getting materials and techniques.

But a common temptation is to regard the securing of attention as an end in itself. Overcoming hyperactivity and distractibility may appear at the outset the most obstructive problem at hand, but they do usually yield gradually with appropriate materials and firm control, at which time, the formidable nature of the underlying problem comes sharply to the fore. It is like a mountain climber who sees before him an imposing range, only to discover when he surmounts this one that a vaster one lies beyond.

The distractible child is extremely dependent upon the teacher for continuity and integration, for the development of incentives within the activity. Incentives artificially and externally associated to an activity tend to elicit situational attention and may have no more sustained effect than to encourage dependency upon external reinforcement unless the teacher carefully nourishes gratifications within the activity.

Another important factor is careful attention to success experience. The more defeated and discouraged a child is, the less confidence he has in his ability and the more demonstration he needs of actual achievement. The most important aspect of success experience is that the child should feel successful. Not every child can feel successful when he actually succeeds. The starting point is to provide tasks that are within his range of ability and his level of motivation. The desire to prove oneself, normally active in the human being, may be at so low an ebb in the frail child, the child accustomed to defeat or convinced of his stupidity, that he will refuse to exert himself at any task that resembles those with which he associates failure. Another may subconsciously arrange to fail at tasks well within his grasp in order to support his self-image. It may be necessary to allow the child to approach the materials on his own initiative, or watch another work with them before he will make any attempt. Even then, he may require the constant presence of the teacher for support until strength and confidence begin to develop.

The teacher may need to restrain her own enthusiasm over the child's early correct responses until it is certain that he can accept success. To praise him may discourage him, especially if he has had previous experience with praise when he did not succeed in his own opinion or where praise was used as a manipulative device. Furthermore, it is not always obvious to him that he has succeeded, and to assure him of it may only reactivate his fears and evasions. Therefore, he must not only succeed, but know that he has succeeded and be willing to be successful. Because both attention span and interest may be extremely short in disabled children, tasks need to be brief, and guaged skillfully at the highest level of difficulty at which the child can succeed with the resources of motivation at his command.

The factor of guaging difficulty is delicate. The demonstrable level of functioning may vary from moment to moment as well as lag below the potential level. To succeed at a task which the child recognizes as less difficult than he has previously achieved or that is at a level equivalent to those which younger children do may lend no glow. In such a case, even success may be failure because it is less than the best. Associated with such achievement is conviction of inferior performance and reinforcement of exertionless behavior.

An all too common assumption among adults is that the disabled child perceives total situations as they do. The evidence is overwhelming that he often responds to fragments of situations and even to these not cognitively but tropistically and meaninglessly. Teachers frequently mistake momentary effective excitations for goal directed activity, and follow the child into his disorganization rather than lead him toward organization and integration. The limited learning of handicapped children may often be a function of the imperceptive condition of the onlooker rather than of the nature of the disability.

Thus the teacher of home and hospitalized children will plan for a wide range of growth: academic advancement, socialization, responsibility, motor skills, sensory and speech training, ego development, parent-child harmony, ability assessment, success experience, maximum productivity, visual perceptual progress, self-control, judgment improvement, meaning. She will work to counteract a natural inclination to take rather than to give, toward by-standing rather than involvement (Connor, 1964). She will herself accept the proposition that children would rather learn than not learn, would rather cooperate than rebel, love than hate, grow than vegetate, laugh than weep.

LEARNING DISABILITIES

PHYSIOLOGIC CONSIDERATIONS IN LEARNING: THE TACTUAL MODE

Robert P. Anderson

The primary purpose of this paper is to consider touch as a medium of communication by which the child perceives properties of his adjacent environment. The concept of touch as one of four sensory processing modes suggests an active exploratory sense as opposed to a passive receptor. Gibson (1962) uses the term "tactile scanning" to describe active touch. Active touch involves excitation of new and changing patterns in the skin along with excitation of receptors in the joints and tendons. Passive touch, on the other hand involves an excitation of receptors in the skin and underlying tissues with no movement involving the stimulus figure. While the concept of active touch may suggest some overlap with Dr. Friedus's paper, I shall attempt to confine myself to active touch as a processing mode independent of the neurophysiological interrelations between touch and kinesthesis. Research on the neurophysiology of passive touch as been amply covered by Rose (1959). It is assumed, of course, that any disruption in the neural pathways will affect both active and passive touch.

Of the four sensory modes being considered in the symposium, tactual sensitivity is the most primitive and is probably the first one to be functional. In the course of maturation and learning, tactual sensitivity is never fully superseded, but it is elaborated by vision and audition. Tactual experiences provide a means by which the child initially establishes and maintains contact with the world. L. K. Frank (1957), Yarrow in his review of research on maternal deprivation (1961), and others have implied that the early tactile experiences involved in mothering through nuzzling, cuddling, patting, etc., are necessary for the development of a neurologically well integrated child. Denial or deprivation of those early tactile experiences that are involved in maternal contact and also later experiences of handling and manipulating objects may provide a handicap to the child's future learning efficiency. Again, any disturbances in the neurological or sensory integrity of the organism affecting touch may also be an etiological factor in the deprivation of these early tactile experiences. Research evidence suggests the tentative hypothesis that deprivation of early tactile stimulation may be related to retarded intellectual development, retarded language development, deficits in time and spatial concepts, and disturbances in abstract thinking.

Barsch (1963) places a great deal of emphasis on the appropriate development of tactual space volume, as well as visual, auditory and kinesthetic space volumes. He argues that failure to adequately organize each spacial volume results in some constricting penalty to the survival efficiency of the organism. At least in the normal child the development of a tactual space sense goes through a series of developmental stages. An understanding of this normal developmental sequence would seem essential to an understanding of pathological processes. Although time limitations do not allow a review of their work, intensive study of the normal child's development of a spatial concept as it relates to early tactile experience has been provided by Piaget and Inhelder (1958).

Frank (1957) has observed that the child around age five or six years begins to undergo a restriction of tactile experiences so that the world around him is alienated from his touch. He must have learned to recognize everything visually and auditorally if he is to be successful in learning. The spontaneous impulse to tactually scan objects through manipulation must be inhibited. A question for the parent or teacher of the child with a neurological or sensory deficit concerns the readiness of the child to inhibit and restrict his tactual experiences. At this point, one begins to be bound up with cultural expectations regarding the child's behavior and the extent to which learning through feeling and tactual exploration is considered appropriate.

I cannot attempt to review all studies concerning physiologic and psychologic factors relevant to touch. The studies reviewed here seem particularly relevant to the consideration of learning deficiencies. Rich and Anderson (In press) have demonstrated a positive relationship between intelligence, as measured by the WISC, and the blind child's ability through active tactual scanning to conceptualize and solve problems based on the Raven Matrices. The Raven Colored Progressive Matrices, a nonverbal measure of intelligence, were adapted to a tactual form and administered to blind children between the ages of six and 15. Sighted children at age six can solve the Raven problems. However, with the blind children we could not get sufficient test consistency to use it validly in children younger than nine. While working with the blind children it was demonstrated repeatedly that if a child has any useful vision at all he will use visual scanning instead of tactual scanning to solve the matrices. In order for the blind child to be successful with the test, it was observed that he tactually scanned the total matrix pattern and built a spatial concept of the problem; thus, he knew what he was looking for in his tactual search of the six possible correct answers. Though test scores are a function of intelligence, there also seems to be some suggestion that we were measuring the degree to which the child has learned to conceptualize space through tactual experiences. An unanswered research question at this point concerns the extent to which there are functional differences in learning efficiency between the child who has developed a verbal veneer without developing a tactual space sense and one who has high verbal skills along with a highly developed tactual spatial sense.

McFarland, Werner and Wapner (1962) conducted experimental studies on the relationship between changes in postural tilt and tactual sensitivity. The results indicated that sensitivity did vary with postural change. One implication of this work is that the efficiency of the tactual mode as a communication medium may be related to body alignment. This seems quite relevant to Harmon's (1958) concept concerning the relationship between body alignment and the development of the visual spatial world.

Ghent (1961) explored developmental differences in tactile thresholds in one of the few studies using children. She found that tactile thresholds on thumbs of the dominant and nondominant thumbs did change with age; furthermore, that the course of change appears to be different for boys and girls. Ghent emphasizes the complicated developmental sequence involved in tactile perception. Weinstein and Teuber have carried out a series of studies on the effects of penetrating injuries to the brain. In one study on tactual size judgment (1955), it was shown that a brain injured, nonsensory group showed consistent underestimation for weight, and the brain injured sensory group showed over estimation for weight and underestimation for size on the hand opposite the brain injury. A perusal of the literature suggests more than anything else that particularly with children there is very little research concerning the effects of pathologic neurological processes on active touch perception.

If one is to evaluate the efficiency of the various sensory modes, consideration must be given to assessment procedures. I would like to review very briefly some of the techniques developed for assessing tactual sensitivity and perception. Elsie Haeussermann (1958), in her intensive survey of the developmental potential of preschool children, has provided some tests for measuring tactual sensitivity. She sees the area as important primarily for two reasons: one is the implication which impairment in tactual sensitivity has for manual dexterity, and the other is that the impairment in the area may stem from unsuspected or undiagnosed pathology of the brain. She points out that impairment of tactual sensitivity is selective and that while manual awkwardness can exist in any child without impairment of tactual sensitivity, its impairment will affect dexterity adversely. Her tests of tactual sensitivity, which in effect appear to be active tactile scanning, are set at the four to six year level. The functions that are tested are the ability to perceive slight differences in texture and the ability to recognize familiar objects by touching their form and texture without seeing them. Eisenson's (1944) test of aphasia also provides a basis for the diagnosis of tactile agnosia through the identification of familiar objects.

The subject is presented with a series of objects such as a key and marble, and with his eyes closed is asked to identify them.

In their work on the brain injured child, Strauss and Lehtinen (1947) described the tactual motor test. The first set of the test is composed of three boards with backgrounds formed by rows of flat enameled thumb tacks. Within this background, a figure was constructed of rubber tacks rising above the background of flat thumb tacks. Three geometric figures were presented. The second set consisted of the same figures presented as solid forms. With the board hidden from his view, the child was asked to explore with his fingers for as long as he wished. He was then asked to draw a picture in terms of what he felt. In terms of their responses to set number one, the brain injured children were strongly attracted by the diffused background; whereas for the nonbrain injured children, the background did not constitute a factor of interference. None of the children of either group experienced any difficulty with the second set. The criterion of success was measured by the child's ability to draw, using vision, the figure he had tactually scanned. The differences between groups were attributed to disturbances in figure ground relationships rather than tactual sensitivity. More recent work suggests that differences between brain injured and nonbrain injured children in recognizing form through tactile scanning may also be a function of the geometric complexity of the stimulus figures.

In the past several years several tactual tests of intelligence have been developed for the blind. Tiffin (1960) and his group developed the Vocational Intelligence Scale for Blind Adults and the Tactual Reproduction Form Board. The latter was designed to provide a measure of tactual perceptiveness and manual dexterity. Both of these tests correlated significantly with criterion variables related to job success. Shurrager (1961) developed the Kaptic Intelligence Scale for the blind; four of the subtests are adaptations from the WAIS performance Scales with the addition of a pattern board and bead arithmetic. As reported earlier, Anderson and Rich adapted forms of the Raven Progressive Matrices for blind children and adults. Successful performance on these tests apparently requires the development of tactual space volumes. The question for research as yet unanswered, concern the extent to which tests of this type provide a measure of the individual's tactual space sense, and the extent to which a tactual space sense is functionally related to learning or learning efficiency.

Training in the tactual sense can be considered in three ways. First, training is directly related to teaching a system of communication. Braille, Geldhard's vibratese language, the manual alphabet for the deaf-blind are examples of communication systems. I am not going to attempt to cover these systems other than to point out that they are dependent upon the neurologic integrity of the tactual sensory mode.

Second, training is related to stereognosis. Relatively little information is available on training techniques for form and object perception. Without describing his method, Barsch (1963) referred to a series of tasks in tactile perception which required progressive increases in the cognitive complexity of nonsighted manipulative explorations of objects and forms. Slingerland and Gillingham have published a series of training exercises for beginning readers. One group of the exercise involves tactual scanning and tactual kinesthetic recall. Dubosson (1957), a French educator, has spelled out a series of exercises much more detailed than the Slingerland series, for the development of sensory motor skills. Specific games related to tactile perception with variations based on Piaget's experiments on the development of spacial concepts are described. Ferreri (1962) reported a simple experiment in stereognostic training with spastic cerebral palsied adults. An interpretation of her results suggests that the subjects can learn to identify objects if they are allowed to tactually scan the stimulus objects. However, the subjects could not learn form recognition under conditions of passive touch.

LEARNING DISABILITIES AND PSUEDO RETARDATION

David L. Clarke
David Ellingson

Skill in reading is one of the obvious prerequisites for academic achievement. The student who has difficulty reading is prevented from using one of the fundamental teaching tools, the written word. These children become the children with learning problems at the third and fourth grade level. The child who falls behind academically because of a learning disability is functionally retarded; however, this retardation can only reflect achievement in terms of past instruction. The child's potential achievement is often thwarted by inadequate evaluation of the child's strengths and weaknesses and by stereotyped concepts of normal and remedial instruction. We would maintain that a child with a learning disability is a psuedoretardate in terms of his potential for achievement, if instruction can be made available that meets his unique needs.

This study is an attempt to investigate the characteristics of a group of children having a defined learning disability and consequent efforts to derive instructional programs based on the characteristics of the children. The project, a two year program, was financed through the research council of the Seattle Public Schools and began in the school year 1963-64. It was executed through the guidance department with the assistance of the medical and speech departments of the school district. We have completed the analysis of the data we obtained in our first year, which we will report in part.

The concept, learning disability, is a hypothetical construct used to describe the presence or absence of a variety of behaviors associated with the act of reading (an extremely complex and, at this point, a poorly understood skill). Numerous single and multifactor rationales have been put forward as explanations for poor reading skills, but at present no single rationale appears to offer a totally satisfactory explanation.

No attempt will be made to summarize the enormous literature in the field, but the bibliography might be considered representative of the various emphases in the field which we have surveyed. The literature does suggest various physiological, neurological, developmental, emotional, intellectual, and social factors which have appeared relevant to the study of reading disability. Because of space limitation it would be impossible to list each of our hypotheses separately, but they are implicit in our general evaluation technique and the following areas which we tried to investigate. We considered the following areas for investigation: (a) General Intelligence; (b) Perceptual Motor Functioning; (c) Visual Dysfunction; (d) Auditory Dysfunction; (e) Language Development; (f) Maturation, Growth Rate, Physical Well Being, Energy Level; (g) Suspected Central-Neural Dysfunction; (h) Lateral and Peripheral Dominance; (i) Home Environment and Relationships; (j) Students General Emotional Picture; (k) Specific Diagnosis of Reading, Spelling, and Arithmetic; (l) School Grades; (m) Attendance; (n) Teacher evaluation of Social and Emotional Growth.

It was the intention to use only those facilities of a public school system to see how effective we could be in diagnosis without the facilities of the community. (The Seattle School District employs psychologists, social workers, speech therapists, a physician and a staff of school nurses.)

The initial experimental question stated was as follows: "What are the quantifiable behavioral and external environmental characteristics of children having a defined reading disability that are not common to children defined as progressing within normal limits in school?"

The second portion of the study will be considered with this question: "What remedial techniques are effective in contributing to increases in reading achievement with children having defined reading disability?"

Since the concept of reading disability is not precise, it could be operationally defined in many ways. For the purposes of the present study a group of children whose problems seemed to be of pressing importance to the public schools was used. As subjects, fourth grade pupils were selected from a representative sample of Seattle elementary schools. An experimental group of 22 subjects had Lorge-Thorndike IQ's of 90 or above with an achievement level of 1.8 or more years below grade expectation as measured by the Metropolitan Achievement Test, reading section (5% or lower). The 22 control subjects were fourth graders scoring 90 or above on the Lorge-Thorndike reading between the 25 and 75 percent on the Metropolitan. The subjects were matched for sex and school.

These children were evaluated in terms of 434 variables. They were seen by certificated school psychologists and administered tests in four sessions, which included WISC, Bender-Gestalt, ITPA, Monroe-Sherman Group Reading Aptitude and Achievement Tests, Selected Sections of the PMA and CTMM, Wide Range Achievement Tests, Grays Oral Reading Paragraphs, Kottmeyer Reading Diagnostic Impression, Lincoln-Oseretsky Motor Development Scale, Harris Tests of Lateral Dominance, Auditory-Verbal Learning, Draw a Man, Benton Left-Right Discrimination Test, Goldstein-Scheerer Color Form Sorting Test, A Time and Space Concepts Test, and Sarrason Anxiety Scales.

School social workers interviewed the subjects' mothers in the subjects' homes. They used a structured interview schedule which dealt with various areas, socioeconomic data, developmental history, family history, parental attitudes, etc.

In addition, each child was seen and evaluated by a school nurse and a speech therapist. Grade and attendance information was supplied by the subjects' school and his classroom teacher, using a rating scale, evaluated the child's social and emotional development.

All this data was then coded and put through data processing. Mean differences or differences in distributions or both were computed as appropriate, (t and x^2 tests).

In discussing significant differences, it must be kept in mind that these are group differences and can only offer then, tentative area for diagnosis and differentiation of individuals.

The reading disability group would be characterized as having tendencies toward mild to moderate deficits in the verbal intellectual sphere. They show moderate motor and perceptual motor developmental retardation with some hesitancy in right-left orientation and working with so called "crossed commands." The general area of complex abstracting with pictorially and verbally presented symbols also seems a problem for them; this is especially true of making analogies or abstracting common factors. There are tendencies for their families to be somewhat larger with a less well educated mother than the controls. The parents tend to use more corporal punishment versus scolding. Their parents also tend to emphasize good grades, tend to be more rigid about early training and see their children as not living up to their expectation. The classroom teacher tended to describe the reading disability group in more negative terms, both socially and emotionally. The children tend to have difficulty in both reading and arithmetic from the first or second grades. The usual ratio found of boys to girls also held true - approximately four to one.

There is evidence to support the following which have been described both clinically or experimentally. There was no familiar pattern or medical difficulties to differentiate the two groups; no racial or socioeconomic differences. Also no apparent differences were found in speech difficulties or in language development. (At this point, these would not be disclaimed - merely noted.)

We are now into the second year of the project and in the process of partially replicating the work done last year so that an increase of the size of sample and, to a certain extend, cross-validation of previous work. As an outgrowth of last year's work, we are also in the process of developing intensive remedial lessons in both verbal comprehension and abstracting areas, which are being used by psychologists with individual subjects from last year's experimental sample. It is our hope that there will be a transfer of training from these skills to the reading skill. (Data from these projects will be available in the fall.)

The necessity for the classroom teacher to understand the characteristics of the reading disability students she has must again be emphasized. The classroom teacher often perceives a child as dull or perhaps retarded because of his difficulties in only one area. This kind of over generalization is, of course, seriously detrimental to any individual child. These children must be identified early in their school careers with full evaluations done by special services personnel. This will enable the classroom and remedial teachers to plan in terms of the child's development, rather than in terms of the curriculum, which often needs adjustment for these children. With a knowledge of strong sense modalities, differences in verbal and performance skills, rate of perceptual motor development, etc., the classroom teacher should be better able to prepare materials so the child can learn.

It would appear that children who are intellectually within the normal range, but who possess certain basic strengths, are in a sense treated unfairly by classroom teachers who have learned certain stereotyped cues to determine problems. Children with such negative cues or who present an absence of positive cues are not instructed. As a consequence the child's motivation lags and he, in turn, accepts the attitude of the teacher that he is retarded in many areas and possibly in all areas.

Before we can make an assumption of retardation as it effects learning we must ask, "How is he retarded?", "In what area is he retarded?", "In what areas is he not retarded?" Then we need to develop ways of measuring the specific area and develop compensatory techniques to teach in the areas of strengths.

Granted there are retardates in schools, the psuedo-retards are far greater in number and may well be more the product of our lack of diagnostic and remedial skill than primary intellectual functioning.

In conclusion, we offer the results of the project tentatively with the hope that others, particularly school districts, will replicate the study. While clinical observation is valuable for hypothesis building, there exists a great need for intensive well controlled descriptive studies of reading disability cases. It will not be until we can at least adequately describe our subjects, that we can truly experiment with and derive effective remedial techniques.

THE PRACTICAL APPLICATION OF AN INTEGRATED PERCEPTUAL MOTOR PROGRAM IN A SCHOOL FOR CHILDREN WITH SEVERE LEARNING DISABILITIES: A PRELIMINARY REPORT

Belle Dubnoff

An integrated perceptual motor activity program, as a part of the curriculum, has been explored and pragmatically confirmed to have validity over a period of 17 years at the Dubnoff School for Educational Therapy.

This school has a population of 75 children with dysfunctions ranging from organic, mental retardation to schizophrenia and autism. Most of these children have shown significant gains in abilities to achieve in school and to attain emotional growth. In large measure, this growth is due to the fact that as much thought and planning has gone into the establishment of a program which would correct the child's perceptual-motor dysfunctions as has gone into his program to remediate his academic deficits.

We have found a multifocal conceptual framework helpful and increasingly more valid in the formation of a theoretical base and a practical application to the curriculum. Any single approach in isolation, such as pure perceptual-motor concepts, or pure academic approaches, or pure psychological or psychoanalytic theory is insufficient in itself. An integration of many aspects of these different approaches has been achieved and proved valuable to us in the education of the total child.

The limitations of time and space prohibit us from dealing with all areas at this time. However, the areas which we have found to be most basic as precursors to learning and rehabilitation of the child are those aspects of ego integration dealing with body image and perceptual-motor schemes.

The developmental hierarchy goes from the sensory-motor to the perceptual to the conceptual level. As these stages are reached, the child develops a sense of trust in himself, in others, and in his environment through successful mastery and the resultant building of ego strength, without which learning cannot take place.

What kinds of organization need to take place within the central nervous system before reading, writing, arithmetic, as well as emotional and ego growth might come about?

The concept of the body image is one of the most fundamental and important concepts to be developed. The child's mental image of his body, the way he appears to himself, becomes the nucleus of the self, and in turn, the ego. When the image of the child's own body is incomplete or faulty, it follows that all responses will be distorted.

Thus, the image of the body becomes a cue against which all perceptions are measured. The child must learn the boundaries of his body, the position it occupies in space, the ability to move and use it both with and against gravity. He must know how to relate direction to his body as the point of orientation. He learns up, down, before, behind, beside, right and left in relation to his body, which exists as the one stable cue on which he can always rely.

The child must learn to identify and use the various parts of his body. I remember a child, for example, who was trying to put on his pants. He got the right leg into the right pant leg, but remained perplexed as to the function of his left leg, and what to do with it. He had to be helped to complete the task and he had to be taught to use all his body parts. Another child was unable to put his hands behind his back when asked to do so. Instead he turned his back toward his teacher. Many other examples could be cited which would illustrate the difficulties which arise from an inadequate concept of the body.

We know that a child perceives as he is able to relate these percepts to his body. All the sensory modalities operate from the middle line of the body to the extremities. The formula for any act contains an image of the limb, body part, and the muscles performing the act.

The body scheme is built through sensory stimuli coming to the brain and then being reinforced by meaningful movement. Kephart (1960), Ayers (1961) and Hunt (1964) are all agreed that the development of adequate perception goes along a continuum which begins with the development of sensory motor skills and ends with highly conceptualized academic skills. Prior to and necessary to the building of an adequate body scheme are the development and awareness of tactile and kinesthetic receptors. A deficit in tactile perception leads to conditions which cause the child to have difficulty in motor planning. It is obvious that with this difficulty the child will be clumsy, will have difficulty in moving about and, therefore, will experience doubt in relation to the position of his various body parts. He will also have difficulties with many kinds of learning experiences, since a deficit in one area of perception tends to lead to deficits in other areas.

Although the development of the body image may not be a cognitive process, many approaches have been found to be useful in helping the child produce an understanding of, and attitude toward, his body.

Tactile perception is not only the first to develop and mature in the child, but tactile stimulation will enhance kinesthetic perception, which in turn, helps visual perception.

Since each sensory modality which produces the stimuli that make for the corresponding perception is somehow interrelated with all the others in a kind of inter-sensory integration, it is difficult to determine definitively which modality is developed first and which is dependent upon others for its subsequent development.

Body image is certainly one that is dependent upon the tactile and kinesthetic senses, but could it develop without the prior development of a figure ground concept?

Hunt feels that figure-ground differentiation is the first organized perceptual development. The tactile and visual elements are perceived first as undifferentiated wholes with gradual differentiation of figures emerging from the background. The face of the mother gradually is differentiated from the glob she first appeared to be to the infant. From this differentiation the child will gather information about his environment, the objects and people that it contains and the role and space that his own body occupies. His actions can become more purposeful and his movement skills can begin to develop, which in turn will help him develop academic skills.

The inability to screen stimuli and select the relevant ones is one of the major presenting problems in dealing with children who have learning disabilities. They are simply bombarded with stimuli and react with symptoms of distractability, short attention span and all the other symptoms which are listed in the case histories. A fly will divert them from their reading, an airplane sends them into fantasy, a bird will divert the eye from the ball which they are trying to hit, etc.

This inability will then, not only create difficulties in perceiving but also in responding both physically and emotionally. Anxiety is bound to mount when one is unable to fixate on the primary object but has to swing back and forth from figure to ground. This then becomes a cyclical event, for as the anxiety mounts the response will be less accurate, which in turn will create more anxiety, and so forth.

There is some evidence appearing in the literature that ways of handling feelings have figure-ground perceptional concomitants. How can a child develop stability in personality if the ground, which should be a stable point of reference, is shaky and keeps intruding itself into the form and then back out again? By observing the movement pattern of many children, it becomes obvious that their perception of an unstable figure-ground environment could contribute to their unsure movements as well as to their anxiety states.

Movement behavior can be learned and movement certainly can have a direct effect upon the awareness of the body. It can promote either feelings of security or fear. Motor planning, if inadequate, can make the tiny spaces between the benches upon which a child is walking, appear to him as great as though he were trying to span the Grand Canyon.

Another important factor is the development of laterality. Laterality must be learned. The child, who at first reacts bilaterally, must learn to use his body, which basically is a symmetrical instrument, in such a way as to distinguish one side from the other. It is through movement and balance the child is enabled to compare and match sensory impressions with the two sides of his body. Should the movement pattern of children be restricted, their learning will also be restricted.

Delacato has pointed out that the two sides of the body have to work well together before laterality develops. He urged that infants be given the freedom to move and experiment with space. He emphasized the need for the infant to learn to creep and then crawl cross-patterned for as long as he will. Only when the child shows a decided preference for one hand over the other, after a long period of bilateral movement, should this sidedness be encouraged.

Far more important, however, is the necessity for learning right and left side discrimination. For example, up and down, front and back, and all basic directionality is learned by preschool years, right and left by early school years and mirror positioning of objects or persons facing in the opposite direction somewhat later.

Much of the form of our learning is based on directionality. Reading goes from left to right, a "b" is distinguished from a "d" only by direction; addition and subtraction is started on the right and goes toward the left, or, equations from left to right, and so forth.

The concept of laterality and directionality has to be well established prior to the presentation of formal academics.

There is increasing evidence that perceptual motor training has a positive correlation with academic achievement. Perceptual disturbances generally accompany problems of minimal brain damage, emotional disturbances and learning disabilities.

Thus, it is obvious that, regardless of the etiology, the need for a perceptual-motor program becomes a major factor in mediating behavior and stimulating higher learning processes. Such programs should be more widely applied.

The following are a few of the kinds of activities that are incorporated into the curriculum of the Dubnoff School. These are integral parts of the daily schedule and are conducted during specifically designated perceptual-motor training periods as well as other activity periods, such as classroom game times, music rhythmic activity time, crafts periods, cooking periods and so forth. The opportunities for presentation are very broad and the specific perceptual-motor concepts can permeate and influence every activity within the school. Whatever the activity may be, if the placement of the emphasis, and the level of the presentation is oriented toward a specifc perceptual-motor objective, it can be instrumental in achieving the desired goal.

Training of, or the filling in, of developmental sensory-motor gaps can take place through the simple experience of performing movement patterns that are basic to the body, and therefore, basic to childhood developmental patterns. It has been found that certain experiences must precede others.

The child must first be able to experience the extension or contraction of his own body. This, in turn, involves the experience of weight or the ability to experience the pull of gravitational forces. The boundaries of the body must first be discovered and defined by the child as well as the many ways in which these parts can be moved. For instance, for a first step, a basic activity can be that of rolling prone across the floor. This facilitates the child's defining such parts of the body as chest, back, sides, thighs, shoulders, feet, hands, and head. In this way, through the kinesthetic and tactile receptors and by the pull of gravity, the parts of the body, such as hands and feet and various joints, twist and turn and bend. These movements are basic to contracting and extending, or the closing in and opening out to the environment.

To discover how his body parts move, the child can be asked to pretend that he is a puppet and that strings are attached to his joints, or to participate in the well known song game of opening and closing and flapping the hands to "Open, shut them" rhythm music and so forth. To experience extending and contracting, an example would be the imagery of a flower growing up from the ground, raising its petals to the sun. Or play the game of jack-in-the-box in which the child folds himself into an imaginary box and subsequently unfolds by stretching out his entire body. Although these activities are used in the nursery school, these are eminently applicable, within a broader framework, for use with older children.

The third level is moving the body through space. This proceeds on various levels and entails moving the body from prone on the floor, to crawling, to standing, to tiptoes and while on each of these various levels moving forward, backward and sideways. This follows that the experiences would be crawling, walking, and turning.

The next sequential step would be the dimension of the movement in space. An activity illustrative of this particular process would be a game of walking over puddles of increasing sizes. Thus, the child experiences small steps becoming increasingly larger. Similarly the game of "Simon Says" can be used for this process.

The next step in this process is the experiencing of speeds in movement. For example, imagery which might be used here could be "walking across the desert on a hot day." Slow movement will be the response. Gradually the movement is increased by various imaginary situations demanding changes in pace.

The culmination of these locomotor experiences of moving through space, big and little, slow and fast, high and low, frontwards and backwards, is in the child's ability to combine them. These combined with the primary experiences described are basic to the higher levels of skills such as jumping, skipping, galloping, hopping and running.

It is suggested that the latter skills not be taught as such prematurely because subsequently, they will emerge more readily as outcomes of the child's control and awareness of his own body through these earlier experiences. These experiences combined contribute to the child's ability to handle his physical environment. Before a child can cope with common obstacles, such as a room full of furniture, or a playground full of apparatus, he must be able to perform, upon direction, these movement experiences in a sequence such as run fast, take a giant step, turn around and then fall down. From this, the next step is the actual working with obstacles. The playground setting is an ideal place for the child to incorporate the many combinations of motor experiences described. Also, increased demand is put upon visual-perceptual functioning which at this time becomes more specifically integrated with the motor, thus culminating in a total visual-perceptual-motor functioning on a relatively high level.

Through heightened awareness, integrated perception and the ability to use his body the child becomes freed to discover himself. In acquiring a healthy body image, he develops a self concept without which no learning can take place.

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CONDITIONS RELATED TO SPECIFIC READING DISABILITY

Walter Hill

Concern for "specific reading disorders" has had a sporadic developmental history. Expressed as long ago as 1896 by Morgan, who likened it to the actions of individuals with brain damage, it has sputtered off and on through the periodic efforts of such individual theorists as Hinshelwood (1917) and Orton (1937). We appear to be entering a period of resurging concern about this problem. Developmentally, our present state may be likened to early adolescence with its rapid disorganized growth and its painfully ambitious and uncertain self-consciousness.

There is some reason to believe that we will make a better assault upon the problem of extreme reading disability in the next decade than we have in the previous half century. This conjecture is based partly upon the assumption that the revitalized concern for the exceptional individual in our society will extend to problems in learning the basic school skills. It is based also upon the assumption that the progress we have made in understanding the classic areas of exceptionality, the growth we have made in our understanding of the reading and learning to read processes, and the greater sophistication we have developed in gathering and using human research data, will be channeled toward a better understanding and treatment of this disability.

There can be little doubt that we have our work cut out for us. John Dewey once observed that "a problem well stated was half solved." If by "well stated," Dewey meant that the specific and functional nature of the problem had been defined, that the major related variables had been identified, and that the problem had been placed within a broad conceptual framework which squares with present evidence about the problem, and which permits the integration and application of new data as it is obtained - then, we are not yet half way to our solution. Such progress would seem mandatory to a systematic attack on the cause-effect relationships which underlie effective diagnostic and treatment operations.

A fair start would be to recognize that general concensus about these aspects of the problem is lacking. Certain individual investigators have developed problem statements which satisfy their own criteria and within their own conceptual framework. That these individual conceptions of the problem have not met broad professional needs is evident in the growing number of such individual statements. That the problem should be attacked from divergent directions is laudable. The lamentable aspect is the professional communication difficulty which develops from the lack of common conception of the problem of specific reading disability. This communication problem deters the efforts of both researcher and teacher, and could lead to professional decisiveness concerning the proper nature of school treatment. If such should happen, it can be expected that efforts to provide programs for extreme reading disability will be compounded.

Why do we have such a problem? As students in elementary psychology, we learned that our perception, or the meaning we associated with objects and symbols, was highly dependent upon our backgrounds of knowledge; that, in effect, we "saw" with our existing store of information. When we observe the wide variety of professional backgrounds represented among those who have researched and written about reading behavior and reading disability, (e.g., psychologists of various schools and research interests, sociologists, linguists, exceptional child specialists, psychiatrists, classroom teachers, medical personnel of numerous specialties, communication theorists, even remedial reading specialists), it is surprising that we have communicated as well as we have.

As students of elementary psychology, we also learned that the phenomena of identifying with a subgroup tends to inhibit identification with the larger class. And once having formed our perceptions within the accepted group limits, we tend to challenge and reject on emotional grounds those points of view which run contrary to these beliefs.

It may be that the phenomena of perception and identification confound our efforts to develop an operational framework of reading disability which is broad enough. For example, there may be some who will be disturbed to find that the larger body of researchers of reading problems would discount the concept of a specific reading disorder in favor of the concept of extreme learning difficulty in basic reading skills. Furthermore, it shows that available evidence indicates that these cases compose a relatively small percentage of those pupils whose reading difficulty provokes serious school and life adjustment problems. Yet, such evidence, objectively considered, does not prevent the development of a broad framework in which extreme reading disability, including specific behavioral and etiological patterns, can be studied and treated within a total attack upon reading problems.

It is to this difficulty in the conceptualization and communication about the nature of reading disability that this paper is addressed. Specific attention will be directed to current patterns in conceptualization, to the differential characteristics of general and extreme reading disability, to the need for a functional school framework for treating reading disability, and to the ubiquitous problem of cause and effect.

Variation in Definition of the Problem

A Priori Terminology. It is natural for a communicator to select some particular term to refer to the object or class of objects about which he wishes to make statements. An unusually wide range of descriptive terminology has been employed to refer to youngsters exhibiting unusual difficulty in learning to read. Illustrative here are such appellations as: aphasic, alexic, dyslexic, congenitally word blinded, functional illiterate, language phobic, organismically immature, culturally disadvantaged, confused in lateral dominance, chemically imbalanced, autistic, retarded reader, slow learner, strephosymbolic, and remedial case. Such terms may reflect either notable descriptive characteristics or the perceptual background of the communicator, or both. It is significant, however, that such terminology quickly takes on the overtones of a priori definition; thus, by associating a name with the problem we have implied major causal influence.

Specific Definitions. Concise definitions of extreme reading problems are not prevalent in the literature. This may imply that we are not confident of the nature of this area of exceptionality. The definitions available find greater agreement upon the severity of the problem than upon the function or etiology of the disability. The following are representative:

> Developmental alexia; noted particularly by distortion in recognition and recall of symbols and symptoms of lateral confusion; strephosymbolia (Orton, 1937).
>
> Unusual difficulty with reading characterized by inadequate organismic age (Olson, 1942).

Disorder in the understanding of word forms; precipitating factors may be psychological or physiological (Fernald, 1943).

Reading difficulty accompanied by the personal conviction of such difficulty; an expression of the social and emotional maladjustment of the child (Dreikurs, 1954).

The illiterates; those unable to master even the simpler mechanics of reading; probably different in nature from general backwardness in reading in which the child reads slowly and with poor comprehension (Vernon, 1958).

Severe reading disability; the lowest two percent of readers demonstrating symptoms of deficient discrimination of symbols, severe blending deficiency, and abnormally low rate on familiar material (Smith, 1959).

Specific dyslexia; both degenerative and developmental, which is severe and which does not apply to the hearing and speaking of language (Money, 1962).

These definitions tend to imply a particular etiology or basic nature for the problem, although they do not indicate a common view of this etiology. The public schools on the other hand, have taken a developmental, normative view of the problem of reading disability; that is, they have utilized degree of difficulty rather than specific pattern or etiology of the difficulty as their basis of operation. Thus, the schools have tended to place diagnostic and treatment emphasis upon the more frequent cases which fit the classification of general reading disability. Specific or extreme reading disability case would be included in this classification, but generally, without special or differentiated attack.

Broader Theoretical Structures. Several broader theoretical settings for reading disability have been developed from which we may gain some comparative view of specific or extreme reading disability. Smith (1959) sees severe reading disability within a total context of normative progress in reading development; i. e., the lower two percent of the school distribution. However, he includes criteria of perception and blending difficulties and resistance to traditional remedial help as further delineation. Smith's analysis of the three models or analogues which have been employed to explain severe reading disability are useful here, since they suggest three different views of causation. Two of these are classical models: (a) the Hinshelwood-Orton-Rabinovitch "brain-lesion" view of etiology, and (b) the Olson-Robinson-Park organismic malfunctioning view of causation. The third is Smith's own, and may be described as a psychophysical model which places basic causal emphasis upon malfunction of synaptic transmission -- as a result of metabolic imbalance.

Rabinovitch's own framework distinguishes three patterns of reading disability: (a) secondary reading disability, in which the capacity to learn is intact and the causative factors may come from a variety of exogenous circumstances; (b) brain injury with a result of reading retardation, in which there is clear evidence of neurological deficit; and (c) primary reading disability, in which the disabled reader manifests behavior symptomatic of neurological disorganization, but without clear history or examination evidence of the presence of brain damage.

Another comprehensive framework is developed by Bateman in the December, 1964, issue of Exceptional Children. Bateman's concern is with the broader issue of special learning disability, and within this, she delineates three major but overlapping subcategories: (a) reading disability or dyslexia, which includes general as well as "primary" reading retardation; (b) verbal communication disorders, or difficulty with comprehension or expression of spoken language; and (c) visual-motor integration problems, with or without accompanying dyslexia.

Between these theoretical structures, a broader framework in which we may place extreme reading disability begins to emerge. However, in them we also see a common pattern in the definition of extreme reading disability: the employment of default conceptualization. As a result of this phenomena, the specific or extreme reading disability case becomes a negative issue: a pupil who is not making normal progress in reading development, who does not fit within the classic categories of the exceptional child, and who is not propitiously served by programs for general reading disability. Default conceptualization is inefficient, and it does not provide for specific control in either research or treatment. However, this tendency for default classification does emphasize the need for conceptualizing extreme reading disability in such a manner that it can be integrated into a practical school program.

The Underachievement Concept of Reading Disability. While most recent writers have accepted that reading disability necessarily implies underachievement, (i.e., differential between reading performance level and mental ability level), public school personnel who are responsible for the instructional needs of large number of children as well as for the attendant issue of school-public relations, have utilized underachievement as the prevailing criterion of reading disability. The most frequently employed school formula of underachievement has been MA-RA 1, which has tended to sift out approximately 15 per cent of school children in English speaking countries.

Owing to the problem of giving special treatment to so large a group, to the increasing variability in skills achievement at successive school levels, as well as to the obvious difficulty of classifying an extremely intelligent youngster as a case of reading disability because he reads only slightly above his grade level, many schools have developed graduated criteria for special consideration of underachievement for successive grade levels. In addition, they have assumed that such underachievement is limiting (or blocking improvement) in skill function. Thus, a typical school identification system might require (a) evidence of adequate intelligence; (b) underachievement of one year at the primary level, two years at the intermediate level, and three years at the secondary level; and (c) assumption of such limiting function that the pupil evidences little reading growth through the regular classroom program. Such a classification system nudges the selection of reading disability cases in the direction of severe malfunction.

Characteristics of Reading Disability

Systematic observation of reading disability is a prerequisite to the development of effective diagnostic and treatment modes. Some of the more prominent characteristics associated with reading disability may be seen in the following clinical and research generalizations.

Factors Associated with General Reading Disability

For research purposes "general" reading disability usually has been defined as underachievement in reading of one or more years at the elementary school level and two or more years at the secondary school level. On the average, such broad criteria typically identify about ten percent of school females and 20 percent of the school males. Three decades of investigation have seen substantial change in the methods of investigating reading problems. The pattern of acceptable investigation has moved from single factor studies of causation, to single factor studies of association, to multiple factor studies of association, and more recently, to multiple regression investigation. This progression reflects increasing sophistication in the study of general reading disability, and accounts, perhaps, for a growing tendency to view general reading disability as a form of total pupil behavior. It may account also for an increasing skepticism of "single" approaches and solutions to reading disability. The following generalizations, which have been derived from authoritative reviews of the research support this skepticism:

1. Excepting the condition of decided mental retardation, no factor or group of factors has appeared as a highly significant influence in a majority of studies.

2. Prediction cooeficients in large sample studies have seldom exceeded +.7, which leaves approximately 50 percent of the sample variance of reading achievement to be explained.

3. Most problem conditions, (for example, membership in lower socioeconomic class), which have been discovered among the characteristics of poor readers have also been identified in the make-up of good readers.

4. The present handicapping influence of an anomaly is more crucial to the treatment of current reading disability than evidence of past abnormal development.

5. A direct relationship exists between the severity of the reading disability and the degree and number of associated anomalies in the case. This observation has led some researchers to hypothesize that it is the number of anomalies rather than their specific nature which breaks down the reader's basic compensatory power and thus leads to the disability.

6. The significance of the anomaly is somewhat dependent upon the reader's instructional setting. For example, emotional hyperactivity is more likely to contribute to reading difficulty in a rigidly structured reading class. Similarly, speech and hearing defects are more significant in programs emphasizing oral reading and phonic approaches.

In the thousands of studies of reading performance on record, nearly every variable which differentiates one pupil from another has been associated with individual differences in reading ability. Those which have appeared rather consistently and significantly reflect a cross section of human characteristics -- primarily exogenous influences. In addition to general mental retardation, which is tacitly recognized in utilizing underachievement as a basic criterion for identification of disability, the following indicate factors of greater probable association with general reading disability. The intensive case study of a particular pupil may not conform to these model expectations, of course.

Intellectual Factors: mental immaturity for initial reading instruction; inadequate meaning vocabulary; comparative depression in verbal intelligence test scores; abnormal variation in subtest scores; subculture depression of cognitive power; depression from prolonged reading of communication deficiency; and variation in associational mode.

Physical Factors: visual problems in near point acuity and binocular coordination; notable hearing loss within voice range; direct evidence of neurological difficulty; endocrine disturbance, particularly hyperthyroid and hypothyroid malfunction, and general illnesses which combine to lower drive or which produce extended absence from school during the primary grades.

Perceptual-Linguistic Factors: deficiency in visual and auditory discrimination and synthesis; deficiency in visual-auditory integration; inadequate grasp of English as a basic language; and speech defects, particularly stuttering and indistinct enunciation.

Social-Emotional Maladjustment: depressed self concept; peer aggression; hostility toward authority; withdrawal pattern; high anxiety-tension level; and specific anxiety within the instructional reading situation.

Specific Environmental Factors: deprivation of school readiness experience; cultural isolation as a result of geographic or social circumstances; conflict of motivation due to cultural discontinuity; masculinity; inconsistent parental patterns of rejection and over-protection; lower socioeconomic class membership; and inadequate school adjustment to individual differences.

Factors Associated with Extreme Reading Disability

Most of the characteristics associated with general reading disability are appropriately associated with extreme disability. As has been observed, both the degree and number of individual anomalies tend to increase as we concentrate upon greater severity of the reading problem. Following is an overview of composite of additional conditions associated with extreme reading disability which have been drawn from various investigations.

1. The pupil's reading performance is quite low normatively, and functionally; frequently, it is blocked at the level of illiteracy or near illiteracy. Silent reading is so slow and meaningless, that the pupil requires constant teacher aid. Oral reading of the simplest material is tedious, punctuated by strain, hesitancy, repetition, and mispronunciation.

2. Extreme learning difficulty usually is observed in other basic skills, particularly those of spelling and writing.

3. The reading disability may appear as part of a larger problem of communication disability.

4. The difficulty is evident from the earliest phases of formal instruction; except in rare cases of emotional or organic pathology, the reading ability never developed to independent operational level.

5. Lack of mastery of the essential reading readiness skills is characteristic, even for those pupils in the intermediate or upper grades.

6. The reading problem is manifested most clearly in difficulty with individual word forms, including the learning and recall of total word forms as well as the effective use of word analysis. (Investigators differ in their interpretation of this phenomena: some believe the reading problem to be the result of this basic difficulty with symbols, while others feel this word difficulty to be an artifact, since word learning is the initial phase of learning to read.

7. Difficulty with word skills in reading appears to be global. Illustrative here are confusions in association of phonic and structural word parts, substitution, reversals, omission, and addition of words and word parts, inadequate use of context as a cue to word recognition and analysis, and difficulty in the identification or production of letter forms. In many cases, a profound dislike for working with skills frosts the word cake.

8. Deficiency in general perception has been noted by a number of investigators. This extends beyond difficulty with the reading readiness skills of discrimination and synthesis of word sounds and word forms to problems in the perception of non-word forms and perceptual-motor coordination.

9. Perceptual areas of confusion which have been associated with extreme reading disability include spatial orientation, figure-ground relationship, discrimination of size and shape, and the synthesis of parts.

10. As a behaving organism, this pupil has been described as generally immature in his development -- physically, emotionally, and intellectually.

11. It has been pointed out by some clinicians and researchers that many severe reading disability cases exhibit symptoms of brain damage even though clear evidence of pathology may be lacking; e.g., unusual patterns of perseveration,

poor motor coordination, hyperactivity, distractability, catastrophic release, speech abnormality, and erratic response to stimulation.

A School Framework for Reading Disability

Traditionally, the elementary school teacher has been entrusted with the responsibility for reading instruction, and in this, she has been expected to consider the reading needs of all pupils. Many schools now accept that some pupils will need more than regular classroom help if they are to make adequate progress in reading. Increasingly, classroom teachers become sensitive to the needs of youngsters experiencing unusual difficulty in mastering the many subskills of reading. Special reading classes as well as the employment of remedial reading specialists to provide individual diagnosis and treatment continue in their frequency of appearance.

While private clinics and research groups have much to contribute to the treatment of reading disability, it is reasonable to assume that the regular school setting provides the optimal point of attack upon the problem. Acceptance of school responsibility for providing special diagnostic and treatment services for general reading disability has developed slowly. Lack of trained personnel, ineffective communication about the problem, and the absence of organized pressure groups contribute as much to this belated development as the more frequent rationalization of limited funds.

Acceptance of this responsibility is far from complete. Some schools provide for corrective reading classes, but not for individual remedial treatment. Most schools utilize standard group measures of achievement and aptitude, but few employ a solid program of individual diagnosis. Team case study and special treatment programs for extreme learning difficulty in reading are a rarity. The remedial reading programs in many schools hang in the balance of proving themselves with the phenomenal recovery of youngsters with every type and degree of learning anomaly and emotional maladjustment.

As the adherents for specific reading disorder treatment programs grow in number, and as we become more vociferous about the neglected needs of pupils with extreme disability in reading, we run a real risk of frightening nervous school administrators and conservative school boards out of special reading services frame of mind. Furthermore, the substitution of a specific reading disorders program for a general remedial services program is dubious and short sighted progress, as many individual school systems already have learned, and one western state wide program of subsidy is about to learn. Extreme reading disability must be provided, but in the interests of its own success, it should be developed within a total school attack upon reading disability.

Major Elements of a Broad Consideration of Reading Disability

A total framework for considering the nature and treatment of reading disability is feasible through the integration of the basic school remedial program with recent concepts of extreme reading disability. In this, diagnostic and treatment success, while adjusted always to the individual needs of the pupil, aid in determining the classification of disability. The law of parsimony is observed; no pupil is given more expensive treatment, (in terms of time and professional effort), than he needs to improve his reading skill. Thus, the pupil who profits from the semi-individual diagnosis and instruction of the corrective phase of the program is a corrective case. Similarly, those reading disability cases requiring diagnosis and treatment on a sustained daily controlled environment basis are extreme reading disability cases.

The following phases are suggested as significant elements in the total school provision for reading disability. All imply the condition of underachievement.

Phase 1: Short term, nonlimiting disability. A number of different patterns occur here. Perhaps the most notable are: inadequate readiness for initial formal instruction, but without unusual confounding influences; initial learning confusions in a recently taught sub-skill; inefficient use of secondary reading skills such as reading rate, critical comprehension, or word study skills; and developmental reading retardation, in which the underachieving reader, after a delayed start, now makes better than average progress with normal instruction. Major program implications are for an adequate general school testing program, and the development of general school staff ability to identify and adjust classroom instruction to these reading needs.

Phase 2. Corrective reading disability of a mildly limiting nature. In this case, the pupil is having some, but not yet serious, difficulty in the learning and use of fundamental reading skills. Normatively, his underachievement will be less than a year, and he will be able to make use of his skill. However, in spite of good classroom procedures he contines to be confused in some skills. He responds to normal motivational provisions, and adjusts to group instructional circumstances. Major program implications are for individual skills diagnosis and corrective instruction within the class or in a special short term corrective class of pupils with similar problems. Special attention should be given to identifying these pupils with a developing pattern of more severe difficulty.

Phase 3. Remedial reading disability of a limiting nature. This disability case is underachieving by two or more years, and though he has demonstrated that he can learn to read he does so at a level low enough to produce school learning and adjustment problems. His disability shows a decisive tendency to become worse, and his attitude toward reading is negative to the point of blocking the usual corrective instructional efforts, especially those of a group nature. He may demonstrate ability to learn school tasks which are not highly dependent upon reading, such as arithmetic computation, but he will probably have difficulty with spelling and writing skills.

Program implications here call for intensive individual assessment or case study. Regular individual remedial treatment with special approaches to motivation and instruction directed at alleviating the fundamental skill weakness are usually required. This individual treatment should be integrated with and reinforced by appropriate adjustments in regular school instruction. The diagnostic, treatment, and consultant services of a remedial specialist with adequate time and training are essential to the program.

Phase 4. Extreme reading disability, including specific and generalized disorder patterns. The distinguishing feature of this disability is that functional reading ability is practically nonexistent in spite of evidence of general learning ability and adequate regular and remedial instruction. We have much to learn of the nature and treatment of these cases.

Further research may make it possible to develop clear subclassifications with attendant programs of instruction. It is assumed that children with clear etiologies of neurological impairment or pathological emotional disturbance will be placed in programs especially geared to their needs and not classified primarily as reading disability cases, although they will need special provision for reading development. Individual case study involving team members of varied professional competencies will be necessary.

Perhaps the most effective step the school program could take at this time is to recognize that these pupils need a special class environment of a limited number of pupils and a remedial teacher well versed in the varied elements of specific reading disorders. The class should consist of no less than one-half of the school day, and should be free of the usual school curricular restrictions. Exploratory treatment programs of an eclectic nature guided by evidence of progress should be encouraged. From such exploration we should gain observations necessary to more controlled research.

The Argument for a Broad Consideration of Reading Disability

There are at least four major reasons why a planned total school program for treating reading disability makes better sense than the sporadic addition of specific treatment setups. First, it encourages an all staff emphasis upon prevention and classroom adjustment to reading problems. Secondly, it provides for greater versatility and efficiency in diagnosis and treatment. The pattern for most general reading disability cases, if not resolved, is to move from mild limitation of skill to severe limitation of skill confounded by negative attitude and generalized maladjustment. It makes sense to get at mild difficulties when they can be diagnosed and treated with a modest effort. For the same reason, we should prevent the extreme disability program from becoming so overloaded with cases that it can't prove it usefulness.

A third argument for a total program approach is that it improves administration and communication with the larger school administration, staff, and general public. It permits the coordination of related school services. The total program attack can be presented to regular staff as a supportive service rather than a unique operation with some strange characters. Duplication of diagnosis and treatment facilities is minimized.

Since a total program is a multiphase program, misclassification of disabled readers can be reduced. The lack of progress made by a brain damaged child in a corrective reading class will do little good for the pupil's skill, the teacher's nerves, or the reputation of the program. Asking a slightly limiting underacheiver in reading to gear himself down to the readiness activities of a class of extremely disabled readers will produce equally distasteful results.

Finally, a total school attack recognizes our cultural orientation toward the Judeo-Christian premise that one individual's problems are just as worthy of treatment as another. The esoteric nature of specific reading disorders may be intriguing, but they make the pupil no more worthy of concern or treatment expense than the child with mundane reading problems of an equally blocking nature.

Need for Controlled Studies of Cause and Effect

Statistical association merely accounts for the beyond chance presence of two or more factors in the make-up of a disabled reader. In itself, it does not explain cause effect relationships. A classic example of this is the contingent relationship between reading disability and emotional disturbance. While it has been deductively concluded by some theorists that emotional maladjustment would naturally lead to difficulty in reading performance, empirically derived data indicate that (a) in a larger percentage of cases, the emotional difficulty is identified after the reading disability becomes apparent, and (b) a larger percentage of disabled readers exhibit abnormal emotional and social behavior in the school reading setting than their general environment.

One difficulty in the investigation of extreme reading disability is the susceptibility of findings to the contamination of our research approaches. Much of our evidence has emanated from clinical settings, where we derived our generalizations from intensive living and identifying with the severely disabled pupil. Frequently, those involved in this work become increasingly isolated from close observation of adequate or superior readers. The possibility of a "devils horns" influence is thus increased.

However, investigations which employ a control group of adequate readers do not completely escape cause effect contamination although they improve upon the situation.

It is interesting that so many investigators tend to ignore that the learning to read process, itself, may influence the reader's attention span, ocular motor coordination, perceptual efficiency, etc.

The writer recently checked upon this hypothesis by studying perceptual memory responses of advanced and disabled readers who were reading at the same functional reading level and who were equated for intellectual ability and school and home background. Utilizing the Memory for Design Test, the results indicated a slightly superior perceptual motor memory performance for the disabled readers. More amusing was the fact that three of the superior readers met the test criteria for brain damage and seven others were classified as borderline.

READING DISABILITIES AMONG ACADEMICALLY TALENTED, AVERAGE, AND SLOW LEARNING PUPILS

Stanley Krippner
Claire Herald

In the education of gifted and talented children, the mastery of basic reading skills is essential. However, Gowan and Scheiblel (1960) have estimated that most gifted children are hidden remedial reading candidates. Wheeler and Wheeler (1949) have stated that the most seriously retarded readers in our schools are the mentally superior students while Strang (1951) has noted that the gifted child who reads only at his grade level is actually a remedial reading candidate.

The etiological factors associated with reading problems among the gifted are similar to those affecting average and slow learning pupils. Disorders may be present in the peripheral nervous system (especially as concerns seeing and hearing), in the central nervous system, or in the endocrine system. There may be social, emotional, educational, or cultural handicaps. Although one of these factors may often be identified as the major cause of the disability, several other factors generally serve as contributory. It is not unusual for five or six factors to emerge, through diagnostic testing, as providing the etiology of a reading disability.

The most important peripheral sense organs in the reading process are the eyes and the ears. Problems in seeing and hearing acuity may produce conditions necessitating glasses, hearing aids, or surgery. Even if there are no acuity (or keenness) problems, there may be a lack of development in visual and auditory skills. If auditory discrimination for phonemic speech differences has not developed, children are likely to have trouble in mastering phonics because small, but meaningful, differences in sound will not be recognized (Wepman, 1960). A classroom teacher who over emphasizes phonics will penalize the youngsters in his class who have poor auditory discrimination--just as boys and girls with poor visual skills will be penalized in a classroom where the sight methods is over emphasized. Pupils with poor visual discrimination, poor visual memory, and poor visual motor coordination cannot readily master symbolic material presented through the visual modality (Bond and Tinker, 1957). Mayne (1963) has noted that some children with poor visual skills depend on auditory memory to master the academic curriculum. However, they are called upon to do a great deal of silent reading in the intermediate grades and their grades suddenly plummet. Mayne has found that acuity problems may not be present but that many of these pupils are unable to focus their eyes for clear vision, are unable to obtain single (rather than double) vision at reading distance, and are unable to control the eye functions in a voluntary manner.

Although seeing acuity and hearing acuity basically involve the peripheral nervous system, both the peripheral and the central nervous system are involved in visual and auditory skill deficiency.

Central nervous system malfunctioning is most apparent in post traumatic dyslexia (reading disability caused by brain injury) and developmental dyslexia (reading disability caused by disturbed patterns of neurological organization). Some gifted students are unable to read well because of dyslexic conditions. Lacking and adequate diagnosis, these children are often mistakenly called lazy, late bloomers, or disturbed. Their basic problem involves defects in those parts of the central nervous system that enable the organism to perceive, interpret, remember, and associate printed and written verbal symbols.

Dominance and directional problems are often associated with dyslexia. Some children have not achieved unilateral dominance; their number includes the child with incomplete hand dominance and the child with crossed foot-hand dominance. Other children have not mastered the knowledge of left and right. This knowledge is important as, in the American culture, letters, words, and sentences involve a basic left to right progression.

Endocrinal malfunctioning may affect reading. The improper development or operation of the thyroid and pituitary glands may lower the pupil's energy level, reduce his attention span, impede concentration, or otherwise hamper learning. In addition, speech defects may be associated with reading difficulties if they retard the development of accurate phonic skills, make oral reading unduly difficult, or reflect a basic retardation in the development of language skills. Social immaturity and cultural deprivation may also account for reading disability. A child must be able to relate to a teacher and to work with a group in order for the learning situation to be successful. In addition, he must have the social and cultural experiences upon which the use of symbols can be based. The child who comes to school with a meager vocabulary, without having seen a book, without having used a pencil, and without having attended kindergarten is penalized from the very beginning of his formal academic instruction.

Rabinovitch (1959) has described several neurotic disturbances that contribute to reading disability. They include anxiety, depression, negativism, counteraggression, phobic preoccupations, self-punishment, and symbolic associations. Psychotic and sociopathic tendencies may also adversely affect reading performance. Strang (1951) has cited a number of causes for emotional disturbance including parents who push gifted children, parents who exploit them, and parents who over emphasize intellectual pursuits to the extent that their children rebel by purposively doing poorly. Strang has noted that schools often contribute to the academic difficulties of the gifted child by failing to adapt their programs to his needs, by failing to provide adequate stimuli for him, and by either boring him or applying an inordinate amount of pressure. The Educational Policies Commission (1950) has described how several of these factors may combine to create learning problems among the talented:

> The lack of motivation that characterizes many gifted students is only partly explained by....the failure to provide educational opportunities with great enough challenge or scope to evoke achievement and subsequent satisfaction.... Family attitudes of indifference to school achievement may exist and be carried over into school. Desire for popularity with one's age group sometimes induces a highly able student to conceal his giftedness...

Recent research in creativity has disclosed that some creative children have special problems in learning. Witty (1957) has scored the lack of stimulating basal readers in the primary grades and the failure of some schools to provide challenging educational experiences. Torrance (1962) has written that children who repress their creativity may develop serious learning disabilities. They often repress their natural tendency to learn creatively by questioning, guessing, exploring, and experiencing. As a result, some of them come to prefer learning by authority and some refuse to learn at all. Goodman (1960) has described this pattern not only as the fault of some schools but as a pervasive flaw in the American culture:

> In our society, bright lively children with the potentiality for knowledge, noble ideals, honest effort, and some kind of worthwhile achievement, are transformed into useless and cynical bipeds, or decent young men trapped or early resigned, whether in or out of the organized system (p. 14).

Goodman (1960) also has noted that if the creative, imaginative boy is not challenged academically, he may become the leader of a juvenile gang as this activity may give him more opportunity for imaginative expression than any available alternative in the school or neighborhood.

The Problem

The cited literature on the gifted and talented indicates that reading disabilities hamper the maximum development of many bright children. Research in the field suggests several associated factors. Little has been done, however, to ascertain if there are etiological elements more typical among gifted underachievers in reading than among underachievers with average and below average mental ability. Therefore, it was decided to compare the associated factors in reading disability for a high intelligence group to those factors present in groups of average and below average intelligence.

Procedure

For the purposes of this study, the concept of reading disability proposed by Bond and Tinker (1957) was utilized. The Bond-Tinker formula computes a pupil's expected reading grade (ERG) by multiplying the number of years a child has been in school by his IQ (divided by 100) and adding 1. 0 (because his grade placement was 1. 0 when he entered school). Therfore, a boy with an IQ of 150, in the sixth month of the fifth grade, would have an ERG of 7. 8 (4. 6 x 1. 5 = 6. 8 + 1. 0 =7. 8). If that boy is only reading at the 5. 8 grade level, he would be considered disabled in reading, even though he is keeping up with his class. Although the IQ is not an adequate criterion of giftedness, it was felt that the goals of the study would be best served by using it both for the Bond-Tinker formula and as a cut off point in delimiting the three mental ability groups.

Conant (1959) has suggested that special attention be given, in the schools, to the top 15 or 20 percent, a group he has referred to as the "academically talented" and which he would identify by mental ability tests. On the Wechslar Intelligence Scale for Children (Wechsler, 1949), 20 percent of the standardization sample had IQ's of 113 or above. On the same scale, 20 percent of the standardization sample had IQ's of 87 or below.

During the 1961-1962 and 1962-1963 academic years, 21 elementary and secondary disabled readers with WISC IQ's of 113 or above were seen at the Kent State University Child Study Center. During the same period of time, 124 disabled readers were seen with WISC IQ's between 88 and 112; 14 disabled readers were seen with WISC IQ's of 87 and below. It was decided to refer to these youngsters as "academically talented," "average," and "slow learning" and to make comparisons among the three groups as to the etiology of their reading problems. The designation, slow learning, was selected because Ingram (1953) has used this term in referring to the 20 percent of school children who are lowest in intelligence test scores. Not included in this study were 12 disabled readers who were 16 years of age or older; these students could not be administered the WISC which was standardized on a sample of children from five to 15 years of age.

Each pupil's observed reading grade (ORG) was estimated by taking the mean of his grade equivalents on the six reading tests of the Durrell Analysis of Reading Difficulty (Durrell, 1955). These tests included oral reading rate, silent reading rate, word recognition, word analysis, visual memory, and phonics. The pupil's ERG was computed by using the Bond-Tinker formula and the degree of reading disability was established by subtracting each pupil's ORG from his ERG. The only pupils used in this study were those with a reading disability of one year or more.

Each pupil's diagnostic test data were utilized to arrive at the major cause of his disability. Other etiological factors were also determined by diagnostic testing and interviewing, as well as medical reports, school records, parent conferences, developmental histories, and clinical observations. The final diagnostic categorization was made by one of several graduate clinicians working at the Child Study Center. An attempt was made to lean heavily on objective test scores, so as to prevent subjective judgment from becoming a biasing factor.

Results

The mean WISC IQ of the academically talented group was 117.5 with a range from 113 to 128. The average group's mean IQ was 105.3 with a range from 88 to 112. The slow learning group had a mean IQ of 80.1 with a range from 70 to 87. The mean reading disability of the academically talented pupils was 2.3 years. The mean reading disability of the average pupils was 2.0 years; the slow learning pupils had a mean disability of 3.6 years. The mean age of the academically talented was 11 years, seven months. The mean age of the average was 10 years, six months, and of the slow learning, 11 years, six months. Of the academically talented group, 18 (85.7 percent) were boys. Of the average group, 111 (89.5 percent) were boys, and of the slow learning group, 12 (85.7 percent) were boys.

Table 1 presents the major and total etiological factors felt to be associated with the pupils' reading disabilities. Chi square analysis did not indicate any statistically significant differences among the three groups, possibly because of the small numbers involved. However, when major factors relating to emotional disturbances (neurotic tendencies, psychotic tendencies, sociopathic tendencies) were combined, it was noted that 42.9 percent of the academically talented were involved versus 18.5 percent of the average and 14.2 percent of the slow learners. Using raw scores, not percentages, the difference between academically talented and average pupils was found to be significant at the .05 level ($x^2 = 6.2$). Because of the small numbers involved, the formula for comparing the academically talented and the slow learning had to be corrected for continuity. The difference was not significant ($x^2 = 2.0$) although emotional disturbance was listed as a major factor for the academically talented more often than for the slow learners.

The categorization of impaired seeing acuity was made on the basis of a report from an ophthalmologist or optometrist. If the impairment in seeing acuity had not been corrected when reading instruction began, this element was cited as an etiological factor. In much the same way, the pupil was placed in the impaired hearing acuity category if the problem was not identified by an audiologist before reading instruction was inaugurated. In some cases, the defects in seeing and hearing were not suspected until the child was administered the pure tone audiometric screening test or the Keystone Visual Survey (1961) at the Child Study Center. Using the above criteria, none of the academically talented were judged to be disabled readers primarily because of impaired seeing acuity, although it was a contributing factor in 19 percent of the cases. Among the average, impaired seeing acuity was the major etiological factor in 6.4 percent and was a major or contributing factor in 22.6 percent of the cases. Although seeing acuity was not a major factor for any slow learner, it was a contributing factor for 50 percent.

Fewer pupils suffered from a loss in hearing than a loss in seeing, insofar as etiological factors were concerned. None of the talented or slow learning pupils was judged to have impaired hearing acuity as the major cause, and only one (0.8 percent) of the average pupils was so identified. Insofar as total factors were concerned, the percentages were 4.8 for the talented, 8.1 for the average, and 14.3 for the slow.

Table 1

Major and Total Etiological Factors in the Reading Disabilities of Three Clinical Groups of Pupils: Academically Talented (N:21), Average (N:124), and Slow Learning (N:14)

Etiological Factor	MAJOR ETIOLOGICAL FACTORS						TOTAL ETIOLOGICAL FACTORS					
	Talented		Average		Slow		Talented		Average		Slow	
	f	percent	f	percent	f	percent	f	percent	f	percent	f	percent
Impaired Seeing Acuity	0	0.0	8	6.4	0	0.0	4	19.0	28	22.6	7	50.0
Impaired Hearing Acuity	0	0.0	1	0.8	0	0.0	1	4.8	10	8.1	2	14.3
Poor Visual Skills	1	4.8	14	11.3	2	14.3	13	61.9	95	76.6	13	92.9
Poor Auditory Skills	0	0.0	1	0.8	0	0.0	1	4.8	42	33.9	12	85.7
Articulation Defects	0	0.0	0	0.0	0	0.0	0	0.0	23	18.5	4	28.6
Brain Injury	3	14.2	18	14.5	3	21.4	3	14.2	23	18.5	5	35.7
Disturbed Neurological Organization	6	28.6	21	16.9	1	7.1	6	28.6	30	24.2	2	14.3
Dominance or Directional Confusion	0	0.0	20	16.1	1	7.1	7	33.3	70	56.5	8	57.1
Endocrinal Malfunctioning	0	0.0	4	3.2	0	0.0	0	0.0	8	6.4	5	35.7
Social Immaturity	0	0.0	2	1.6	1	7.1	3	14.2	13	10.5	8	57.1
Neurotic Tendencies	6	28.6	19	15.3	0	0.0	14	65.7	82	66.1	8	57.1
Psychotic Tendencies	1	4.8	1	0.8	1	7.1	1	4.8	2	1.6	2	14.3
Sociopathic Tendencies	2	9.5	3	2.4	1	7.1	3	14.2	7	5.6	2	14.3
Unfavorable Educational Experiences	2	9.5	11	8.9	3	21.4	10	47.6	62	50.0	8	57.1
Cultural Deprivation	0	0.0	1	0.8	1	7.1	0	0.0	6	4.8	1	7.1

Visual skills were negatively affected in all cases where seeing acuity was impaired. However, many pupils displayed poor visual skills who had no disease of the eyes, and who did not need corrective lenses. These children typically had problems with the visual discrimination of letters, visual memory, visual closure, and visual motor coordination. Pupils were classified as having poor visual skills if they were one year or more disabled on the visual memory section of the Durrell Analysis or if their performance on the Perceptual Forms Test (1963) was below 60. (A score below 60 on the Perceptual Forms Test, according to the manual, indicates the presence of one or more poor visual skills.) Additional visual problems were also noted on the WISC (upon examination of such subtests as Coding, Mazes, and Picture Arrangement) and on the Developmental Test of Visual Perception (Frostig, 1964). Because the latter test was not available when these pupils were diagnosed initially, the only ones who were administered the test were those coming to the Center for supplementary or followup testing in 1964.

Poor visual skills, as determined at the Center, were found to be the major factor behind the reading disabilities of 4.8 percent of the talented, 11.3 percent of the average, 14.3 percent of the slow. As a major or contributing factor, poor visual skills affected 61.9 percent of the talented, 76.6 percent of the average, and 92.9 percent of the slow. No other etiological factor was found to be present so frequently.

Almost all pupils with a hearing loss had poor auditory skills but few pupils with poor auditory skills had a hearing loss. Pupils were assigned to this category if they made an unsatisfactory score, for their age, on the Wepman Auditory Discrimination Test (Wepman, 1958). Poor auditory skills were also identified by the Roswell-Chall Auditory Blending Test (Roswell and Chall, 1963), the Illinois Test of Psycholinguistic Abilities (Kirk and McCarthy, 1961), and the WISC Digit Span subtest (which involves attention and immediate recall). Pupils with defective auditory skills could not discriminate between two similar phonemes, could not blend individual phonemes together into a simple word, and could not recall material presented auditorially.

Poor auditory skills, using the single criterion described above, were found to be the major factor in none of the talented, one (0.8 percent) of the average, and none of the slow. However, as a major or contributing factor, they characterized 4.8 percent of the talented, 33.9 percent of the average and 85.7 percent of the slow.

As the young child grows and develops, listening and speaking typically precede reading and writing. Reading instruction assumes a certain level of speaking ability, vocabulary development, and articulation preciseness. In some cases, therefore, poor articulation can be a causal factor in reading disability. At the Center, each pupil was administered the Look and Say Articulation Test (Montgomery, 1961). If one or more major speech sounds were defective, and if those sounds were characteristically mastered by the majority of youngsters of that mental age, the pupil was considered to have a speech defect.

Articulation defects were not found to be a major factor in the reading disabilities of any of the pupils seen at the Center. Nor were they a contributing factor in the talented group. However, defective articulation was a contributing factor among 18.5 percent of the average group and among 28.6 percent of the slow learning group.

Brain injury was suspected among those pupils whose scores on the Memory-for-Designs Test (Graham and Kendall, 1960) fell outside the normal limits. In many cases, this suspicion was confirmed by electroencephalographic examination. In others, neurological diagnosis was not possible because of financial factors. In the latter cases, a tentative diagnosis of brain injury was made on the basis of birth history, developmental history, clinical observation, and additional testing. In the opinion of clinicians at the Center, brain injury was suspected to be the major cause of reading disability among 14.2 percent of the talented, 14.5 percent of the average, and 21.4 percent of the slow. Brain injury was a suspected major or contributing factor among 14.2 of the talented, 18.5 percent of the average, and 35.7 percent of the slow. All of the pupils so categorized had scores on the Memory for Designs Test which fell outside the normal range.

Rabinovitch (1959) and others have described disturbed neurological organization in terms of a developmental lag between the maturation of verbal and nonverbal intellectual capacities, with verbal capacities displaying a slower development. As a result, these children are characterized by serious reading disabilities coupled with a difference of 15 or more IQ points between their WISC Verbal Scale scores and their WISC Performance Scales scores. Other symptoms described by Rabinovitch include disturbed body image, poor revisualization, poor reauditorization, difficulties in conceptual thinking, confusion in dealing with time, confusion in dealing with numbers, and confusion in dealing with directions. Those pupils placed in this category by Center clinicians had a WISC Performance IQ that was at least 15 points higher than their WISC Verbal IQ. In addition, their behavior indicated problems in at least five of the seven areas described by Rabinovitch. Frank brain injury was not found to characterize these children, either by Rabinovitch or (with two exceptions) by Center clinicians. As a result, they are often referred to as suffering from developmental dyslexia as opposed to post traumatic dyslexia, in which damage to the central nervous system, rather than a developmental problem, exists.

Using the concept of disturbed neurological organization as outlined above, 28.6 percent of the talented were felt to have this condition as their major etiological problem. In addition, it was the major causal factor among 16.9 percent of the average and among 7.1 percent of the slow. As a major or contributing factor, disturbed neurological organization affected 28.6 percent of the talented, 24.2 percent of the average, and 14.3 percent of the slow.

In the case of certain pupils, endocrinal malfunctioning was felt to be an etiological factor. In each case, there was a medical report that endocrinal malfunction existed (or did exist when reading instruction began). None of the talented or slow were judged to have this condition as their major etiological problem, although 3.2 percent of the average group was so affected. Insofar as total factors were concerned, an improper functioning of one or more endocrine glands was felt to characterize none of the talented, 6.4 percent of the average, and 35.7 percent of the slow.

Dominance and directional confusion was diagnosed by the Harris Tests of Lateral Dominance (Harris, 1958). Some researchers report that crossed and incomplete dominance problems are more often found among cases of reading disability than among adequate readers. Other research evidence indicates no significant association. In any event, the clinicians at the Center focused upon the problems in directional orientation. If a pupil had poor left to right progression in reading, if he often confused d and b and if his performance on the Harris Tests was also unsatisfactory, the pupil was placed in this category. On this basis, dominance and directional confusion was the major factor among none of the talented, 16.1 percent of the average, and 7.1 percent of the slow. It was a major contributing factor among 33.3 percent of the talented, 56.5 percent of the average, and 57.1 percent of the slow.

Pupils were diagnosed as socially immature for their chronological age if they scored below 90 on the Vineland Social Maturity Scale (Doll, 1953). It was felt that these pupils, most probably, had also been somewhat less socially competent than their peers when reading instruction began. Their lack of self-direction, therefore, was a likely causal factor in their reading disability. No pupil in the academically talented group fell into this category insofar as major factors were concerned. However, a lack of social competence was the major factor for 1.6 percent of the average group and 7.1 percent of the slow learning group. It was a major or contributing factor for 14.2 percent of the talented group, 10.5 percent of the average group, and 57.1 percent of the slow learning group. It is true that the average slow learner would also be somewhat lower than his chronological age in social competence. However, it was felt that few classroom teachers would make allowances for this fact;therefore, the categorization was made on the basis of chronological age, not mental age.

All pupils were administered the Purcell Incomplete Sentences (Purcell, 1961), and the Mental Health Analysis (Thorpe, Clark, and Tiegs, 1957) or the California Test of Personality (Thorpe, Clark, and Tiegs, 1953). On the basis of these measures, as well as clinical observation and outside reports, the Center clinicians made judgments as to whether emotional disturbance was an etiological factor. If so, additional testing was done by clinical psychologists. A breakdown into the categories of neurotic, psychotic, and sociopathic tendencies was made on the basis of the psychological reports. No pupil was ever placed in more than one of the above categories, even though it was sometimes felt that an interaction of two or three conditions existed. Almost all children with reading disabilities have some degree of emotional disturbance, generally as a result of their academic frustration. In making their judgements, therefore, the clinicians attempted to only classify those pupils as disturbed if the emotional disturbances were the cause of the reading disability rather than the result of it.

Needless to say, a great deal of subjectivity went into these judgments. Nevertheless, the results are still of interest. Insofar as major causes were concerned, 28.6 percent of the talented suffered from neurotic conditions as did 15.3 percent of the average. Neurotic tendencies were not a major factor for any pupils in the slow learning group. When major and contributing factors were examined, neurotic tendencies affected 65.7 percent of the talented, 66.1 percent of the average, and 57.1 percent of the slow.

Psychotic tendencies were found to be the major etiological factor among 4.8 percent of the talented, 0.8 percent of the average, and 7.1 percent of the slow. Psychotic tendencies were major or contributing factors among 4.8 percent of the talented, 1.6 percent of the average, and 14.3 percent of the slow. Sociopathic tendencies were found to be the major factor among 9.5 percent of the talented, 2.4 percent of the average, and 7.1 percent of the slow. They were the major or contributing factor among 14.2 percent of the talented, 5.6 percent of the average, and 14.3 percent of the slow. Psychotic states are characterized by a lack of contact with the environment; hallucinations and delusions typify the more serious psychoses. The sociopathic condition is characterized by a lack of deep emotionality, impulsive and irresponsible behavior, a disregard for social regulations and for the feelings of other people, an emphasis on immediate as opposed to long range goals, and an inability to learn from experience. Neurotic tendencies are more common than either psychotic or sociopathic tendencies and are generally regarded as more amenable to treatment.

Unfavorable educational experiences were found to be an etiological factor among many pupils seen at the center. The placement of a pupil in this category depended on such subjective data as parental interviews, school reports, and the types of errors made by the pupil on reading tests. School experiences were felt to be the major factor in the reading disabilities of 9.5 percent of the talented, 8.9 percent of the average, and 31.4 percent of the slow. They were a major or contributing factor among 47.6 percent of the talented, 50.0 percent of the average, and 57.1 percent of the slow.

As a fee was required for an appointment at the Child Study Center, very few culturally disadvantaged pupils were seen during the course of this study. Therefore, a pupil was catagorized as culturally deprived if his fee had been paid by a social agency. The influence of his disadvantaged condition was subjectively estimated on the basis of reports and interviews. Cultural deprivation was felt to be the major factor among none of the talented, among 0.8 percent of the average, and among 7.1 percent of the slow. It was a major or minor factor among none of the talented, 4.8 percent of the average, and 7.1 percent of the slow.

In reviewing the data, it is apparent that the two items listed most often as major etiological factors among the talented rarely were listed as major etiological factors among the slow learning. These were disturbed neurological organization and neurotic tendencies.

In a similar way, the two factors mentioned most often as major causes for the slow learners (brain injury and unfavorable educational experiences) were less common among the academically talented.

Discussion

Diagnosis has little value unless it is the first step in remediation. Clinicians at the Child Study Center have found that the reading disabilities of the academically talented demand as close attention to the individual aspects of the problem as do the disabilities of the average and the slow learning. The fact that a pupil has relatively high general intelligence does not mean that he will overcome his reading problem automatically. Sometimes, the academic difficulties of bright children in a clinic are the last to respond to remedial treatment.

Remedial techniques for the academically talented demand an adaptation to their specific problem areas with an inclusion of intellectually stimulating content whenever possible. This is especially valuable when unfavorable educational experiences have been the major etiological factor in the reading disability. When very basic material must be used, the remedial reading specialist can still appeal to the bright child by a mature discussion of his problem, explaining how the techniques used will prove beneficial.

For those pupils suffering from emotional disturbance, remedial reading needs to be embedded in a larger setting of supportive understanding. Joint planning with the classroom teacher is often called for as the bright disabled reader seeks to improve his reading skills while simultaneously working out new ways of relating to himself, to his peers, and to adult figures. His giftedness demands a stimulating, challenging educational environment while his emotional difficulty necessitates a structured, controlled pacing of new challenges. If the neurotic, psychotic, or sociopathic tendencies afflicting the disabled readers prove to be deep seated, remedial reading must be preceded by counseling and psychotherapy.

This study demonstrates the existence of neurological problems among some disabled readers of high intelligence. Often a program of perceptual training, dominance establishment, and/or motor coordination improvement is needed before remedial reading will be helpful. Many pupils seen at the Center had endured two or three years of remedial tutoring without positive results. The reasons became obvious once a deeper understanding of the disability was gained through diagnostic testing. Tutoring in reading is a process of sinking shafts into sand if the basic physiological foundations for learning do not exist. Satisfactory auditory discrimination must be present for a child to master phonics. Adequate visual memory must be present before a child can memorize whole words. A child must know the difference between his right hand and his left hand before he can master the difference between such words as "was" and "saw."

Once the bases of perception and symbol making have been established, the academically talented child who is a poor reader shares many of the same remedial needs as other children with neurological inadequacies. He needs to improve his visual discrimination of letters and to improve his ability to blend phonemes into words. His learning needs constant reinforcement as this training is often slow and unsteady. There are several potential word recognition skills (sight cues, phonic cues, context, structural analysis) and those best suited for each remedial reader should be capitalized on.

The customary skills in abstract thinking and conceptualization which most academically talented children possess cannot be relied on if emotional disturbance, brain injury, or disturbed neurological organization is present. These factors, alone or in combination, may hamper the process of abstraction; as a result, concrete experiences and tangible materials are often called for. Field trips often provide a meaningful basis for symbol making. Tactile-kinesthetic approaches to words (involving tracing, touching, and framing) may be needed to supplement visual and auditory approaches. Comprehension skills might have to be developed slowly; once again, a variety of reinforcement techniques may be needed.

Summary

An analysis was made of the major and contributing factors in the reading disabilities of 159 pupils seen at the Kent State University Child Study Center. On the basis of WISC Full Scale IQ's, these pupils were divided into three groups: academically talented, average, and slow learning.

Of the academically talented group, 42.9 percent were felt to have a form of emotional disturbance (neurotic, psychotic, or sociopathic tendencies) as the major etiological factor. Only 18.5 percent of the average group was so diagnosed. This difference was statistically significant at the .05 level ($x^2 = 6.2$). Disturbed neurological organization was also a frequent etiological factor among the academically talented. The two most common major factors among the slow learners were brain injury and unfavorable educational experiences.

When major and contributing factors were combined, the most common factor among all 159 pupils was poor visual skills. Diagnosis was seen as the first step in remediation and several approaches to the reading disabilities of the bright pupil were described.

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CALIFORNIA'S SERVICES TO CHILDREN WHO ARE EDUCATIONALLY HANDICAPPED

Don Mahler

The term "educationally handicapped" sometimes leads to confusion with other programs for children such as mentally handicapped or those who come under provisions for compensatory education programs or programs for culturally disadvantaged youth. In California the term "educationally handicapped" has a specific legal meaning and to explain this I would like to quote from the basic legislation, Assembly Bill 464. This legislation states, " 'educationally handicapped minors' are minors, other than physically handicapped minors or mentally retarded minors who, by reason of marked learning or behavior problems or combination thereof, cannot receive the reasonable benefit of ordinary education facilities." I hope the meaning of this definition will become more clear as we proceed through the rest of this talk and for this purpose I have arranged the balance of the presentation under seven topics or headings.

Background

Legislative interest in California in emotionally handicapped children goes back many years. Actually back to the 1955 and 1957 general sessions during which time presentations were made to education committees and subcommittees regarding the needs of such children and funds were authorized for special study in the state. The results of this study were presented to the legislature in the 1959 general session via a report entitled, "The Education of Emotionally Handicapped Children." This report and subsequent information and materials which were developed and released have become known in in many areas of the country as the Bower's materials and as the Bower's Study named after Eli Bower who at that time was associated with the California State Department of Education. One of the results of this work was the introduction in the 1961 general session of the bill designed to provide additional funds to those school districts who elected to operate special programs for emotionally handicapped children. This was entitled SB 616. The bill itself was defeated due to a variety of reasons and no further efforts have been made along the line of provisions for solely emotionally handicapped children. In the period of 1959 to 1961 other developments were also taking place in the area of neurologically handicapped children. A large pilot study was authorized in Los Angeles County and another smaller study was authorized for San Mateo County. These studies were designed to gather information about the identification and program provisions for neurologically handicapped children. Sufficient interest and information was developed to suggest to some of the legislators that these children might also be included in future special education programs; and with this in mind an attempt was made to include provisions for the neurologically handicapped child in SB 616, the bill for emotionally handicapped children which was introduced in the 1961 general session. However, as I previously mentioned, SB 616 was defeated and with it went the hopes for programs for the neurologically handicapped child at least at that time. Subsequent to the defeat of SB 616, the efforts of those concerned with the education of the neurologically handicapped child were devoted primarily to obtaining the inclusion of these children under existing California provisions for physically handicapped children. With this in mind several county district attorney opinions were obtained and legislative council opinions which indicated that this might be possible. However, there was disagreement at the state level which finally led to a state attorney general opinion holding that neurologically handicapped children were not eligible for the provisions available to physically handicapped children. Other questions arose about this time concerning the necessity to separate emotionally handicapped children and neurologically handicapped children in terms of program development and operation and at least one program was operated as a pilot program on a very small scale to test the feasibility of including both kinds of children in one program. The results of all this activity was the introductions in the 1963 general session of an omnibus or umbrella bill designed to extend additional funds to school districts which operated programs for emotionally handicapped and neurologically handicapped children. These two groups were combined under the heading, Educationally Handicapped Children. This bill received substantial support from the California Mental Health Association and from the California Association for Neurologically Handicapped Children. It was signed by the governor in July of 1963 and became effective immediately.

While the bill became effective in July of 1963, it could not become fully operational until certain administrative regulations were developed. This was done with the aid of two statewide committees which spent considerable time translating the basic legislation into operational and administrative regulations. Included among committee members were representatives from other state agencies such as the Department of Public Health and the Department of Mental Hygiene; representatives from other disciplines such as the California State Association of School Psychologists and the California State Medical Association. Recommendations of these committee members were transmitted to the California State Board of Education who in turn adopted them as part of their administrative regulations in the winter of 1963. With this action California then had its fourth broad category of special education programs, the other three programs being programs for physically handicapped minors, programs for mentally retarded minors and programs for gifted minors. As you are probably aware, California programs for physically handicapped minors include a host of programs ranging all the way from the grossly orthopedically handicapped to the child with mild speech problems or the child with dysphasia.

Highlights of the Bill

This heading is divided into eight areas. The order does not relate to any degree of importance.

1. The bill does not require a label or category. This is a change from other programs in California whereas previously programs for the retarded child were labeled programs for retarded, programs for speech handicapped children were labeled speech handicapped programs, etc. In this program the determination of whether or not the child is educationally handicapped is a function of the Admissions Committee which in turn must rely upon the information submitted to it by a variety of disciplines. No one of the disciplines is involved in making a diagnosis of educationally handicapped. This places considerable increased responsibility upon all of the professionals involved and is perhaps one of the areas in which we have considerable trouble in the field because most people, of course, are very comfortable with the other method of operation whereby a label or category is obtained as a result of an investigation and feel that they have not quite finished the job when working with this kind of a child or at least in this kind of a program.

2. The identification phase involves three disciplines. No one person representing one discipline is charged with meeting a criteria such as we have for example in the program for the mentally retarded. The identification phase requires as a minimum an educational report, a psychological report and a medical report. Information from other areas, of course, is expected to be provided when the characteristics of a minor suggest that this may be desirable.

3. The admission procedures are also multidisciplinary. At this point, I think it might be appropriate to again quote from the bill which states: "Admission of educationally handicapped minors to programs established under provisions of this chapter shall be made only on the basis of an individual evaluation according to standards established by the State Board of Education and upon the recommendation of an admissions committee which shall include a teacher, a school nurse or social worker, a school psychologist or other pupil personnel worker, a principal or supervisor and a licensed physician."

4. The bill provides for a complete range of programs based upon the needs of the child and not upon a label or category. These provisions include: (a) A special day class in which the child is in a special class program for at least a minimum school day. (b) Learning disability groups in which the child is given specialized instructions for a portion of the school day either individually or in a very small group with the balance of the day spent in a regular school program. (c) Individual instruction which may be given either at home, at a hospital or at a licensed children's institution.

5. The bill provides for separate consultation service. It recognizes the subtle and often very complicated problems school districts are likely to encounter in operating programs for educationally handicapped children. This separate consultation service is expected to be provided by persons not normally employed by the school district and it provides a small amount to pay these outside specialists.

6. The bill requires at least an annual review of the child's progress in the program. This is an attempt to get as many people as possible who are concerned with the educational program of the child to meet together and to consider basically how the child and his needs and the programs have matched, to appraise the results, in other words, of the education program into which the child was placed earlier in the year. This, of course, does not prevent meetings or reviews more often than once a year. The bill in addition requires that when a child is discharged from the program or is transferred to another phase of the program this shall not be done except by a meeting of the admissions committee.

7. There is established a two percent limitation of the percent of a total district's enrollment which may be enrolled in the programs for educationally handicapped minors. It should be cautioned that the two percent figure was not arrived at with any great degree of experimental evidence to support it and that there is a provision in the bill which allows those districts which can demonstrate a need to enroll a figure greater than two percent of their population in such programs to submit a separate application and have the application approved if evidence warrants. It should further be noted that the two percent figure should not be confused with an incidence figure. In other words, there may well be several times this percentage of children who indicate or demonstrate some of the characteristics associated with an emotional handicap or a neurological dysfunction. What we are concerned with here in the bill is not this number but the number that the legislation will allow us to enroll in special programs. It is entirely possible that the two percent figure may be raised in the future when more information and evidence becomes available. However, I do not think we will ever reach the point where the allowable enrollment figure and the incidence figure will be the same. This is because the kind of child with whom we are concerned here may very often have his problems and needs met within the normal school program in much the same manner that many children with a mild degree of cerebral palsy can be very adequately accommodated within the normal school program.

8. While the bill does not specifically spell this out, the concept of the bill and some of the operational aspects support a broad approach for the educationally handicapped child with the schools assuming a portion of the responsibility. One of the major benefits from a broad diagnostic appraisal of candidates, and from a broad representative group of persons participating in admissions committee deliberations, is that other agencies and other persons outside of the school become involved in other portions of the child's problem in which these other agencies and persons have special competencies. The bill, for example, does not propose to provide personality reconstruction or therapy for emotion-

ally handicapped children. It is designed to provide an educational program; but hopefully some of the information developed regarding an appropriate educational program will be of major value in developing therapy programs for the subject child if this is required.

Present Status

A report was prepared for the California Legislature in January of this year which contained information regarding the current status of the program. For those who are interested in obtaining copies of the report, there are a very small number left in the Bureau for Educationally Handicapped and Mentally Exceptional Children; an attempt is being made to fill requests for these reports as long as the supply lasts. At the time the report was prepared, approximately 187 programs were approved and information was returned to the Bureau from 142 programs which gave the following information: 3,347 pupils were enrolled; the total district enrollment in which these programs were conducted was 1,806,573; 2,601 children were enrolled in elementary grades, and 746 children were enrolled in secondary grades. The respondents indicated they expected to increase their enrollment figures by the end of the current school year from 3,347 enrollees to 5,966. It may be of interest to you that 2,158 of the enrollees were in special class programs, 969 were in learning disability groups and 220 were receiving individual instruction in the home, hospital or licensed children's institution. Since the time the report was prepared, an additional 80 programs have been approved, and we expect the anticipated June 1965 enrollment figure of 5,966 to be conservative. This leads to the next topic:

Future Projections

Ten year projections have been developed for all areas of special education for the state of California. These projections suggest that in the 1965-66 school year we will enroll 10,219 pupils in programs for educationally handicapped minors. This will increase in 1970-71 to 56,872. By 1974-75 we will have reached a figure of 88,049 children. In this latter year, 1974-75, we expect that approximately 80 percent of the children in the state who might be eligible under the two percent limitation spoken of earlier will actually be enrolled. In other words, the 88,049 children represents 1.6 percent of California's population. California, of course, currently has the largest school age population in the United States, and it may be of interest to you to note that in 1974-75 California expects to have a fall enrollment, grades kindergarten to 12, of approximately 5,500,000 pupils. In addition to developing projections of pupil enrollment, we have prepared projections on teacher need, and these indicate that whereas approximately 491 teachers are currently employed in programs for educationally handicapped minors, by 1974-75, 8,805 teachers will be employed in programs for educationally handicapped minors. If we further take into consideration teacher turnover, training loss, retirements and other relevant factors, we find that we must place into training programs of one sort or another over the next ten years approximately 19,201 persons just for teaching positions. This does not include training which will have to be provided to school psychologists, school nurses and members of the medical profession.

Pending Legislation

The California Legislature has its usual 3,000 plus odd bills to deal with but during this session things have been, if anything, more slow than usual because of the mandatory reapportionment of the state senate. Therefore, few bills of any substance have actually been passed. Bills concerned with education number several hundred, again as is usual, with substantial interest being shown in new provisions for the retarded and programs under the general term compensatory education. There are, however, two bills concerned specifically with modifications to programs for the educationally handicapped and basically these bills would act to raise the reimbursement rate to provide additional funds for building construction and to allow county superintendents of schools to operate more programs.

Speaking of reimbursement, I should perhaps pause here for those of you who are not acquainted with California's financial system. Districts and county operated programs may claim in this program an amount not to exceed $565 per year for each unit of average daily attendance (ada) for children enrolled in special day classes and learning disability groups. For children enrolled in individual instruction in home and hospital programs, the amount is $910. This reimbursement is in addition to any other monies the district may receive as part of its basic State Aid Program or Equalization Program and hence is called excess cost. The term, ada, refers to the amount of time the child spends in school during the year and not to the number of children enrolled. One child attending every day for the minimum school day or 180 days, for example, would earn one ada for that district. A child attending one quarter of the minimum school day for an entire year would earn one quarter of an ada. No funds are presently provided in this program for transportation or construction costs nor for capital outlay expenses.

Contributions to Date

I think the best way to provide you with information under this topic, No. 6, and the next one, No. 7, is to simply read from the report as it was presented to the legislature. In this report, seven favorable areas were reported on. They are as follows:

1. A significant number of children are now being given an educational opportunity more appropriate to their needs and this number promises to increase substantially in the years ahead. Many of the children being aided have had their failure patterns reversed and may be prevented from becoming school dropouts with concomitant problems to society.

2. Parents of children being assisted or from whom help is being planned have written, telephoned, and appeared in person offering their sincere gratitude for the efforts being instituted and often report dramatic improvement in nonschool behavior as well as school performance.

3. A new awareness of learning disabilities has been stimulated in school districts among teacher training institutions and among other professional groups such as medicine.

4. Children remaining in regular classrooms after the removal of educationally handicapped pupils have had their educational progress facilitated as a result of: (a) Teachers being able to devote more time to the class as a whole, and (b) Pupils having a more orderly climate for learning.

5. The flexibility and safeguards provided by the legislation in terms of pupil selection have been very well received. There is strong appreciation for the absence of categorizing or labeling in programs for the educationally handicapped.

6. The variety of provisions allowed for pupil placement (home and hospital, small group, special class, etc.) has assisted districts greatly in developing programs based upon individual pupil needs.

7. Deferring the establishment of a special credential requirement has facilitated the initiation of programs and allowed districts to select their best qualified staff members for teaching assignments. This does not mean training provisions are not being initiated; on the contrary, I am happy to report that twelve colleges are offering courses designed especially for teachers working with educationally handicapped minors.

Problem Areas

Again, I think the simplest thing is to continue with the report as it was presented.

1. The demand for staff training far exceeds current resources of the districts, county offices, and all levels of colleges and universities. It appears a combination of programs is needed including on campus and extension offerings as well as local and regional institutes, workshops, teacher scholarships and grants and the like.

2. The current level of excess cost reimbursement has acted to prevent the initiation of many programs and has reduced the effectiveness of numerous other programs. Several factors are involved here but the most frequently mentioned ones include: (a) Personnel and time required to accomplish identification, admission, enrollment, and program supervision (b) Less financial support for learning disability groups compared to other provisions of the program (c) Complex curriculum requirements and related expenses (d) Desirable but limited class size, and (e) The relatively higher salaries for selected teachers who tend to have more experience and preparation and hence be higher on the salary schedule.

3. The absence of capital outlay funds for constructing, modifying, and equipping facilities has acted to delay or prevent the development of many programs.

4. Adequate curriculum techniques and materials are still in the process of development requiring an extensive and continuing expenditure of districts' financial resources and personnel time.

5. The lack of reimbursement for transportation as retarded the initiation of some special class programs and has limited the scope of others.

6. Many districts have reported an inability to initiate programs because there have been provided no provisions for advance apportionment for current year funding.

Problems reported are largely those of any new program compounded by the scope of the provisions and the magnitude of the effort. I believe it may be stated that we are pleasantly surprised with the relative smoothness with which the program is being implemented.

RECOGNITION AND HELP FOR TODAY'S INTELLIGENT SPECIFIC LANGUAGE DISABILITY CHILDREN

Beth H. Slingerland

Schools are confronted with increasing pressure from within and from without to do something about the difficulties many children are having with reading, writing, and spelling. It is estimated that some ten percent of the school population with at least average intelligence is not succeeding. This means between three and four million children, a sizeable number, and not surprising that their needs are compelling us to take notice. Recognition of their need prods us forward into active participation in their problems, which just means giving or finding effective help. Today's children cannot wait; they grow up.

As never before in history, language has taken, and continues to take an ever more vital part in man's life at home, abroad, and in almost every socioeconomic group of civilized people. Perhaps that is one reason language problems of today are demanding this attention, not that they are only now developing but because changing requirements for daily living compel us to recognize language as an integral part of almost every life.

Public schools meet with all kinds of children having every degree of ability and disability. This paper is concerned with one particular group too often misunderstood and only now coming into the spotlight it deserves. Not to be included in this group, however, are those with low or retarded mentalities, the organically or neurologically defective or those with severe primary emotional disturbances. Reference is to those called specific language disability children. Elsewhere their condition may be spoken of as congenital dyslexia, word blindness, specific dyslexia, strephosymbolia, developmental dyslexia, and one hears reference made to mixed dominance and mirror writers. Whatever the label, to us they are the ones of good average to superior intelligence who have failed to perform in the language area commensurate with intelligence, whose reading, writing, and spelling is out of harmony with other abilities. They may be artistic, able to grasp concepts including those of mathematics and science and to acquire knowledge and general information; their struggles to learn to read, to spell, to express themselves in written form and sometimes in speaking, too often lead to academic problems for them, their instructors, and for their parents. Knowing what neglect or nonunderstanding of these difficulties leads to, prevention as an elementary school obligation was recognized and undertaken in the Renton, Washington, School District where there are approximately 12,500 school children.

Too often specific language disability children (SLD children) struggling to learn are surrounded by an atmosphere of blame, admonishment and their own feelings of guilt and frustration. They are told they are lazy, indifferent, stupid, careless, too shy, too aggressive, trying too hard, not trying hard enough, or just not interested in learning. They acquire feelings of guilt, inadequacy, loss of confidence and belief in themselves. Their reactions to failure may become negative and hard to live with. Small wonder that emotional problems arise as a consequence of their language difficulties and underachievement, frequently creating an unfortunate chain of disaster for them, for the school system and for their families. They may meet with failure for the first time in their lives as first graders falling behind classmates no brighter than they are. They become upset and so do others. Emotional tension increases, followed by resistance to learning. With less and less academic success, personalities become warped and negative behavior may add to the whole sorry picture of frustrations. Sometimes mental or psychosomatic illnesses serve as an escape when the burden becomes too great to live with. The fortunate ones find compensations or adjust to something less than might be expected or desired. The fact that so many emotional problems follow school failures and do not precede the academic failure is a factor demanding cognizance, one that places responsibility within the lap of education and in no other place. This is something that we had to face and for which we have assumed considerable responsibility.

Because SLD children have been unresponsive to the best efforts of the best teachers using orthodox methods, more than the children themselves have become distressed or found wanting. Considerable fault finding and recrimination clouds the way toward better knowledge and understanding. Sometimes the home is blamed; parents are said to apply too much pressure, or not enough, to be overly solicitious or not sufficiently interested. Teachers blame themselves, wondering why they are successful with the majority of children but fail with a few who appear too bright to fail. They wonder if the difficulty lies in the home and even question the school system's policy that sends to them the ill prepared. School district administrators may hold accountable the teachers, the parents, and perhaps, even the children who should do just fine according to the statistical or policy placement applied to these boys and girls who persist in underachievement. Some educational psychologists work diligently to ferret out an emotional condition as a reason for poor performance. With all due respect to the services rendered by the school psychologists, their findings sometimes just add to teacher frustration because the reasons given are something over which there is no possible control. The teacher is left in exactly the same spot she was when help was sought. Parents add their complaints, blaming schools, teachers, children, themselves, and on occasion, their relatives.

One more group must be prepared to accept its share of inadequacy and that is the teacher training colleges. Only recently, and not in general, are new teachers prepared to recognize symptoms of specific language disability, much less given any kind of instructional techniques. Individual college instructors, rather than general college policy, are to be credited with what little is being done. Reference can be made to the Harvard-Carnegie study of several years ago in 74 teacher colleges where only one instructor was familiarizing students with language disability problems. However, the purpose here is not to add a negative voice to the problem confronting us. Rather, it is to point out these weaknesses as they presented themselves to us. They show conditions and attitudes that indicate a responsibility we feel we need to assume. If orthodox methods help most of the children but not all of the bright ones, then it is time to concentrate on ways to bring successful learning into deserving lives. Furthermore, it is criticism of the failure of this smaller segment that reflects unfavorably on the whole educational system, the larger part of which does an excellent job, deserving praise, rather than criticism.

We know our problems are not unique, only our approach may be so considered. In any field, pioneering is part of the natural course of advancement, judging from what may be noted when viewing man's progression in any given area over a period of time. Those of us serving the cause of specific language disability children in our own particular ways must venture forth also, using what already has been made known to us as guides to new and different teaching techniques, never forgetting that they will improve as future medical, psychological, and educational studies advance and integrate. Before there can be any widespread change in the use of orthodox methods to teach SLD children, (methods that are not proving right for them), there must be pioneering with different techniques.

Every teacher has had experience with SLD children. Unfortunately, their difficulties are not always fully realized until they have become remedial, behavioral, or emotional problems. If not recognized and treated earlier, by the time fourth grade has been reached, the nine, ten or eleven year old may no longer be able to "get by." The crippling effects of SLD cannot be passed over as something that will be "outgrown." The compensation made by some or the disappearance of what was a developmental lag does not come about for all children. Distress over failure to learn during the primary years begins to complicate future progress by inducing resistance to learning in fear of failure. The brighter the child, the more difficult for him to accept below grade achievement.

SLD Symptoms

Many symptoms fall within the SLD syndrome, not all of which occur in any one child. There are various degrees of disability, the effects of which depend a great deal on individual temperament and how failure is met, the importance of education in home environment, intelligence, and the kind of understanding received at home and at school.

Reading may be faulty with numerous omissions, lack of phrasing or feeling of rhythm. There is distortion of symbol or sound sequence, sometimes reversals, confusion with left to right orientation. Vocabulary may not be retained. Concept is missed in the struggle with the mechanics of reading which does not come through instant recognition by configuration.

Spelling serves little functional use even if lists of words can be memorized. Spelling requires exact memory of sequence so the child who man manage to read after a fashion is unable to recall the exact letter arrangement for spelling.

Words are often mispronounced: quidlic for liquid, vowels and confidences for vowels and consonants. Concept may be lost by incorrect associations or the wrong words used to express what may be a clear concept to the child. "At the dentis I saw a mazagine with a different virgin of this same story," said one intelligent boy. Another asked, "Who helps pacific dibility children in other places?"

Penmanship may be illegible or the letters may be well formed but written too slowly for functional use. Some have difficulty carrying out directions. Some are unduly clumsy. There are more boys than girls. Other children in the same family have similar SLD patterns. These are just a few of the symptoms of SLD.

In considering our SLD children then, we must keep in mind that some do not perceive and retain the memory of words as configurations, the sound in correct relationship to make up the auditory gestalt of a word, or the sequential movement patterns of letters. They may not associate sound with symbol or the feeling of the symbol. They may be ambidextrous, frequently left handed or even awkward right handers. And they can be right handed. They do not make good showings on tests requiring reading or, in some cases, where faulty auditory perceptions interfere with carrying out directions within a given time.

Our help in understanding SLD children has come from the medical world. Dr. Samuel Torrey Orton pioneered the way for neurologists of today and others to delve deeper in search of the neurological background of language disability. While his explanation or theory as to the possible cause of disability has never been accepted, and might have been rejected by him had he lived on, his basic neurology is that laterality and hemispheric dominance play a critical part in the acquisition of language is recognized if not fully understood even today. More authorities have come to believe there is a genetic background or family pattern closely associated with dyslexia. We have learned that eyes and ears carry data or impressions, or signals (perceptions) over modalities of input to the cortex of the brain. There, integration takes place with its coding, encoding, recognition, and countless associations with past stimuli. All this is tied to intelligence and integration plays its role before memory and the motor patterns can be recalled and carried over into modalities of output for whatever the individual use may be. When there is disorganization in these steps (referred to as a neurophysiological dysfunctioning in an otherwise normal brain) the sequence of symbol and sound which makes words that convey concept is disordered. Language disability is the result. It is with this in mind - the inability, for whatever reason, to perceive words as wholes - that we know our teaching techniques must deviate from orthodox methods that assume all children can learn by configuration. Since the process of symbolization is impaired, learning by configuration does not serve the learning needs of SLD children.

A full description of our technique is impossible at this time. It is based on the need for the visual, auditory, and kinesthetic channels to work simultaneously and with correct associations. In making the adaptation it is so planned that any basic reading material can be used, only the approach and technique are different. With very few changes, even the same curriculum is followed. The object, as with other methods, is to afford concept so that the way phonics is taught, not phonics itself, is all important in the buildup of single elements into simple phonetic then many syllable words. In time, recognition of both phonetic and nonphonetic words becomes automatic, and if not, then the means to unlock them is part of the training.

Screening tests were created to use in locating the SLD children quickly from among a whole group of from 25 to 30. The purpose of the tests is to find or locate, not diagnose in depth. Qualified clinics are the place for that, and this is not needed for all children. Just to locate and provide therapy is enough for the majority. Factors such as intelligence, family pattern of handedness, language difficulties in relatives, early speech delays, and teacher observations need to be closely related to the screening tests as evaluations are made. Each child must be evaluated as a whole child so the screening tests are not for the purpose of providing standardized judgments. We like and use the standardized achievement records gained from such tests as the Metropolitan. The intelligent child with below grade achievement, or below that to be expected of a very bright child, whose screening tests indicate disability is the one to be given a different approach to reading.

To minimize or overlook the importance of finding the SLD children early (in first grade) would be to miss the major objective of our SLD program which is one of prevention rather than remediation. Neurologists, psychiatrists, pediatricians, and others of national and international reputation for their knowledge in this area, not just their opinions, emphasize the importance of beginning early; preventing while brain tissue is yet plastic, uncommitted and before behavorial or psychiatric difficulties develop. We must avoid, not wait for the need of remediation. A child who feels himself learning is a happy child and free of tension. Even if there is no known cure for specific language difficulties, SLD children can be taught to cope with disabilities and to accept them as one of the individual differences found in people.

Parents and older children display relief rather than distress when an explanation of neurophysiological dysfunctioning is given. Told that this is no one's fault, not theirs, the school's or the child's, that stupidity or laziness is not the root of the problem, and that parents have not necessarily made unwitting mistakes, their cooperation and support have been an inspiration to us all along the way.

We begin with a small unit or element in association with its name, sound, and feel. There must be enough practice for its perception and recall to become automatic. This leads on to combinations of letters forming words, each step requiring over teaching and review to establish a pattern of thinking or intake until perceptual discriminations, responses and recall are assured, or automatic, and this clears the way for concept. The first to offer this approach was Dr. Orton who chose Anna Gillingham, psychologist at the Ethical Culture School in New York, to devise the actual teaching technique. Her contribution remains as a basic guide to much that is being done for SLD children.

Most certainly we must learn from those who have knowledge of neurological and psychiatric functionings but, regardless of what they can tell us, it is the teacher who will reach the children. Until help can be given by trained teachers all the research, all the studies in depth, all the clinics in the country to which collapsing children are taken, all the pilot programs, are of no direct use to the millions of children with language problems. To wait for integration of the research being carried on within the numerous disciplines is to condemn many more children to failure. Since we had enough knowledge of disability, the kind that teachers need, and the teaching technique to begin, we started our program in the late 50's.

Our specific language disability program was not undertaken as a criticism of orthodox methods effective with the majority who learn by configuration. These methods are fully recognized for their worth and should not be denied to those who benefit. But by the same token, children who do not learn by wholes should have the opportunity to learn through use of techniques that do serve their learnings. Neither did we begin with comparative studies. Already, over the years, the educational system had done this for us with its many bright children left behind as casualties. The effectiveness of the Orton-Gillingham technique as taught by those who have skill in its use had already proved what could be done by restoring children's faith in themselves and by showing them how they could learn to read. What we needed was an adaptation of this technique to classroom use. That was accomplished. It meant two diametrically opposed teaching techniques for two diametrically opposed learning abilities: (a) those who could learn as Mother Nature apparently intended and (b) those with a neurophysiological dysfunctioning that disordered in some way, the visual, auditory and kinesthetic patterns of sequence necessary in language. From a small beginning our SLD program has grown to 35 self contained classrooms where approximately 1000 children having severe or borderline degrees of difficulty are receiving continuous, step by step instruction throughout the year and for as many years as there are trained teachers to carry on with individual children who need this help. After one, two, or three years, some return to regular classrooms but others need the help for as many years as it can be provided.

The SLD program begins with first graders. They are screened, placed with the trained teachers and taught by our adaptation of the Orton-Gillingham technique. The unready or immature children, many of whom should not be in any first grade, but are, must wait for a later date to be given this help. The children more ready and intelligent but showing the symptoms of SLD are given preference over all others as a preventive measure. The classes have 23 to 30 children, determined by the size of the school.

When an SLD class is to be made up for the first time from children in other grades of a school just undertaking the program, all are screened and from the information obtained, selections are made. This information comes from the screening tests, Metropolitan Achievement Tests, teacher reports, parent reports and, in some cases, reports from various clinics or child study agencies. Preference goes to the very intelligent. From there we work downward to include those with less severe degrees of disability until a self-contained class is formed for each grade.

Sometimes we are asked what happens to a child who may be placed in an SLD group by mistake. Nothing undesirable because he gains so much independence that he is immediately placed in a regular classroom. However, this seldom happens because oversight in selecting children is much more apt to occur and then we have to pick them up at a later date. We experimented with children having no indication of disability by using SLD instruction. They attained the highest scores on the Metropolitan Achievement Tests. Children with no difficulties learn by almost any method.

Another question asked repeatedly is why we deny our technique to the dull or even the retarded. They do seem to do better when taught in this way (we have experimented here, too) but an approach geared to a much slower intake and attainment than that for the average and above average is necessary. They should not be taken into our program but the SLD technique could be taken to their program, and therein lies a big difference.

There can be no SLD program until there are trained teachers. So we trained them. Beginning with two or three who voluntarily sought the method of instruction, teachers are now able to get seven and one-half college credits by attending a course in specific language disability at the Seattle Pacific College, Renton Summer Reading Center, at which they observe daily demonstrations, work with an individual child under supervision and guidance and attend daily afternoon lectures on the background of SLD, phonics, and the technique. This is open to qualified teachers who come from many areas besides our own. Psychologists, principals, reading consultants as well as teachers attend.

During the year our inservice studies continue in which teachers from any other district who have attended summer school may join. Many do this and other districts are using teachers so trained to start programs of their own. One district, after making its own study which proved its effectiveness, is enlarging its program for SLD's. At Highland Park Independent School District in Dallas, Texas, our teacher training and classroom teaching techniques have been introduced. Their summer training program with college credit to be given this year is held before ours begins. I must add that the staffs of the SLD programs are made from the cream of the teaching profession.

The last to be mentioned, but not least in importance, is the person whose influence and support made our SLD program a reality. He is Mr. O. M. Hazen, Superintendent of the Renton School District. He had enough of the courage and independent spirit and the elephant hide it takes to withstand the kind of criticism this work must take. It deviates from what is accepted practice. By putting SLD children's needs, those not being met, ahead of other obstacles, we have been enabled to help literally hundreds of children over the years and to build much better public relations. We can do more than tell parents of their children's problems, of which they are already well aware. We can do something and the parents see and tell us of the changes in their children's lives. They express their gratitude and lend encouragement to our efforts.

Our classrooms are open to observers. We have no secret techniques. Our many visitors from all over the country are free to see for themselves. They speak of the learning they see, the freedom from stress or tension, and of the enthusiasm shown by the boys and girls. We do not pretend to have all the answers or to be the best or to have the only way. We just know it is a way to do something on the positive side without waiting until we think we know everything or will meet with the approval of the educational leaders. We must remain flexible, keep open minds, keep learning, and from our experience and knowledge, evolve better techniques for children's intake, integration and output. We will pioneer our way for the sake of today's children as well as for those to come, knowing others will profit from what we do and learn. Combined with the results of the many research programs in the various disciplines we hope to carry on to better ways of teaching specific language disability children.

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INTERDISCIPLINARY MANAGEMENT OF CHILDREN WITH LEARNING AND BEHAVIOR PROBLEMS: THE PHYSICIAN'S CONTRIBUTION

Kenneth Zike

In 1958, I had the opportunity to join an interdisciplinary team which was beginning a pilot study of children in the Los Angeles County Schools who were unable to achieve academically and socially.

The core concept of this study was that there were a group of children with evident neurological or general physical defects who were not mentally retarded, primarily emotionally disturbed or otherwise handicapped according to classic description, yet had such learning and/or behavioral difficulties that they were unable to benefit from the ordinary classroom experience. Secondly, because of their disruptive influence they constituted a severe problem for their peers, teachers, family, and ultimately the community.

The children studied were selected on the basis of academic underachievement in basic elementary subjects of two or more years, intelligence within normal limits based on individual testing, and being physically unqualified for existing special education programs. The preliminary screening of these children was such that the sample was heavily weighted toward inclusion of children with visual-motor dysperception as the outstanding psychometric finding.

The assigned role of the physicians was to provide consistent medical evaluation of all children in the study using medical and neurological examinations and laboratory methods in an attempt to refine or more clearly delineate the total portrait of the child.

Dr. Robert Sedgwick, a practicing neurologist and I executed this role by jointly taking a medical history from the parent(s) and then separately examining each child. Information was recorded independently following each examination. Over a one year period 160 children were thus screened, the medical, psychological and educational data recorded and the results tabulated.

A total of 119 complete reports were available to us at the end of the study. Electroencephalograms had been obtained prior to our examination on nearly all children. However, because of the wide variability of electroencephalographic reading in children it was decided to repeat this test in (one of three) specific laboratories where the reader was widely experienced in children's electroencephalography. A total of 84 tracings were thus obtained. Information gained from medical, laboratory, psychological and educational sources are seen in the reported results.

Results

The mean age at the time of examination was 9.7 years. The mean age when a problem was first noted was 5.3 years and the sex ratio was eight males to one female.

The general characteristics of the group were hyperactive and impulsive behavior, short attention span, and aggressive affect commonly associated with anxiety. Further information primarily obtained by history, revealed abnormal sleep rhythm, interpersonal difficulties beginning at an early age, failure to recognize authority and progressively worsening personal-social problems with advancing age. Awkwardness and generally poor coordination were also found although there was no significant delay in motor development by history.

Information from parents, school records and direct observation showed specific learning disability in visual-motor areas to be almost universal. This resulted in academic failures in reading, writing, spelling and arithmetic in decreasing order of frequency. Academic success was uncommon but when present was in art, verbal reporting (story telling) social studies and occasionally music.

Abnormal neurological findings of "hard" variety were present in 14 children (12 percent). These included pyramidal tract signs ranging from mild spasticity in the lower extremities to pronounced heel cord shortening with clonic deep tendon reflexes and residual dorsiflexion toe signs. Adiadokokinesis, very poor balance and past pointing were found as well as tremor, astereognosis and nystagmus. "Soft" neurological findings were found in 38 (32 percent). These included extraoccular muscle imbalance, dysarthria, crossed lateral eye-hand dominance, inadequate finger to finger performance, failure to differentiate right and left, extinction of distal stimulus on simultaneous cheek-hand touch, dysdiadokokinesis, and inadequate coordination and balance for age.

Seizures, either current or by history, were found in 19 children (16 percent). Of these 9 (eight percent) were of simple febrile type and not a current problem; 6 (five percent) had major or minor motor seizures and 4 (three percent) had convulsive equivalents. None had petit mal seizures.

Activity status was judged to be increased in 101 (85 percent), normal in 15 (13 percent) and decreased in 3 (two percent).

On the basis of the total physical, neurological, psychological and historical findings it was felt that there was definite organic involvement in 95 (80 percent) of the children. Eight (seven percent) were thought to be primarily emotionally involved and in the remaining 16 (13 percent) it could not be decided whether the problem was primarily organic or primarily emotional. Crossed lateral eye-hand dominance was found in 33 (28 percent). Thirty two were left eyed and right handed, one was right eyed, left handed.

Learning disorders in siblings or a history of such a problem in a parent was present in 25 (21 percent) of the children. Fifteen (13 percent) had an equivocally positive family history.

Personal-social pathology as indicated by unusual fears, obsessions and extreme anxiety, found in 38 (32 percent) and was generally present in direct proportion to the age of the children.

Etiologically a general classification into endogenous and exogenous causes was made. Endogenous etiology was limited to the area of heredofamilial factors mentioned above. In an attempt to determine exogenous causes the obstetric and gestational histories of the mothers were considered positive in cases where severe bleeding, diabetes, acute severe illness or prolonged surgical procedures occurred. Ten (13 percent) had one or more of these problems. Perinatal and fetal-maternal factors found and considered significant were prematurity with, and without resuscitation, prolonged labor (over 24 hours), erythroblastosis fetalis, operative delivery, breech delivery, post-maturity (over 43 weeks) placenta previa, and abruptio placenta. A total of 32 (27 percent) had this history.

Trauma during childhood with definite learning or behavioral sequelae had occurred in five (four percent) of the children.

Conclusions

1. Of the total sample of 119 patients suspected of having minimal neurological handicap as the basis for their learning and behavioral problems, it was felt that the diagnosis was substantially correct in 79.5 percent of cases. In 13.3 percent of cases it was arguable whether the child should be considered primarily neurologically handicapped or emotionally disturbed. In 7.3 percent of cases it was felt that the diagnosis was substantially in error. This high correlation of the opinion with that of the screening team admitting patients to the study is probably due to the close criteria demanded by the screening team for admission of children to the study. In other words, the high positive correlation is due to the selectivity of the sample.

2. It would be erroneous to conclude from the above that approximately 80 percent of the school children of comparable age and grade with learning and/or behavioral problems suffer from minimal neurological handicap. The incidence of this type of disorder is not known but qualitative experience suggests that it is of at least the same order of incidence as cerebral palsy and mental retardation.

3. The etiology of minimal neurological handicap is varied and includes genetic-maturational factors as well as factors of exogenous insult. It has been noted that it is usually illogical to point to one stress event in the life of the organism and to conclude that this is responsible for the entire clinical picture of the patient as we see him. For adequate diagnostic evaluation, all factors of heredity, growth, injury, and experience should be considered and the resulting personality be studied in the light of "field theory" rather than in terms of chain-causal relationships.

4. The preponderance of this condition in males, like that of primary reading problems is unexplained. It is quite possible that this has genetic implication.

5. The average age when the problem was first noted was 5.3 years and this reflects, of course, the starting of school experience.

6. While it is felt genetic factors are important, it is impossible to validate this in any scientific way and the figures presented are only assumptions and cannot be taken as clear statements of fact.

7. The high incidence of history of exogenous insult is important, and illustrative of the well known fact that the developing organism is vulnerable and even mild insult at a crucial developmental level may produce serious, though subtle damage.

8. The importance of crossed eye-hand dominance, although occurring in much higher incidence than in the general population, does not lead to conclusion although it deserves comment.

9. From qualitative impressions it was concluded that medication is frequently beneficial in the hyperactive, impulsive, and distractible child. Further studies, both published and unpublished, have reinforced this opinion.

10. Careful neurologic examination fails to elicit definitely pathologic findings in high percent of patients. "Soft" neurologic findings are found in say a third of the patients, but it is difficult to evaluate the importance of these findings. This obviously requires further study, including controls.

11. The electroencephalogram has been widely used as a tool in the diagnosis of minimal neurologic handicap. The following reservations should be mentioned: (a) The standards of normality in children are poorly defined and vary from one electroencephalographer to the other. (b) The presence of clear cut abnormality in the electroencephalogram is not of itself diagnostic of this condition. (c) The absence of abnormality in the electroencephalogram does not exclude this condition. (d) The electrical activity of the brain as recorded on the brain wave is variable from day to day, and month to month, so that successive tracings may show definite differences. With these considerations in mind the electroencephalogram becomes a valuable ancillary diagnostic tool and should be performed on every patient suspected of having this type of handicap. Much more study in this area is badly needed.

12. One of the most valuable diagnostic tools in this condition is that of the examination performed by a qualified clinical psychologist.

13. The importance of psychosocial factors in the total evaluation cannot be overly stressed. It is probable that most children with minimal neurological handicap have secondary symptomatology of this kind, as a result of their difficulty in integrating with peer and authority groups as previously explained. Primary emotional problems can produce many of the symptoms of the minimally neurologically handicapped child and the differentiation is often difficult.

14. The diagnosis of minimal neurological handicap cannot be made from any one piece of historical information or objective test data. It can only be made by considering all of the factors discussed above and by consideration of the organism as a field in which all of these genetic, physical, psychometric, and psychosocial factors are interacting. This can only be accomplished by the interdisciplinary approach.

PRESCHOOL PROGRAMS

TOWARDS A CONCEPTUALIZATION OF THE THERAPEUTIC NURSERY SCHOOL

Samuel J. Braun

An interesting spectacle has been taking place over the past five years in this country. Programs for preschool children have begun to proliferate and the demand for new programs continues to grow. What set of factors help explain this phenomenon?

Forces working with normal and emotionally disturbed children have suddenly been caught up in a rapidly flowing stream. Out of this mixture a program for emotionally disturbed preschoolers is being forged. Because the therapeutic nursery school looms as a promising way to treat disturbed children, the nursery educator and behavioral scientist find themselves converging on an area of mutual concern. As we view the development of the normal nursery school and the beginning attempts at its modification for disturbed children, some of the similarities and differences in their program will emerge. But let us first assess why a therapeutic nursery program is considered necessary.

Need

Whereas we know that seven to 12 percent of the school aged population needs professional help for emotional problems, no clear data has been obtained on the number of troubled preschoolers (American Psychiatric Association, 1964). In 1963 the Biometrics Branch of NIMH surveyed the referrals made to guidance clinics. 18,000 children under the age of five were served in that year which represents a rate of about 87 per 100,000 children in that age range (NIMH, 1965). The contact with the clinic may consist of only one visit; 22 percent of the patients (or family) will attend more than ten interviews (Norman, Rosen, and Bahn, 1959). Of those preschool cases terminated during the year 1963, three percent were diagnosed psychotic; 31 percent brain damaged or mentally deficient (NIMH, 1965). But diagnostic labelling in this age group is difficult at best and the remainder of the cases were described as transient situational problems or were undiagnosed.

The national figures, however, fail to indicate that few child guidance clinics have active programs for the preschooler. In many locales, services for this age group are not offered. To place the figures in perspective then, it is interesting to note that the Putnam Children's Center, a preschool guidance clinic with nursery school facilities in Boston, is alone seeing one percent of all the country's disturbed preschoolers. Porter Sargent lists approximately 30 such facilities for disturbed children in their Directory for Exceptional Children (1962). This estimate, however, seems modest.

The demand will certainly increase for several reasons. A recent report has encouraged the use of nursery schools as an adjunct to guidance clinics (American Psychiatric Association, 1964). Some of the disadvantaged preschoolers enrolled in the structured nursery schools now multiplying through the agencies of the poverty program will be unable to make an appropriate adjustment. In effect, the culturally determined crisis of school entry, with its demand that a child make an adaptation to an educational system, may be moved from age 5.6 to age 3.4.

A review of the experiences of a therapeutic nursery school, Baltimore's Children's Guild (Eisenberg, Lansdowne, Wilner, and Imber, 1962), highlights this. Although 80 percent of the referrals over a five year period came from physicians, 50 percent of the children had failed in prior attempts at a normal nursery school. The Guild's clientele came from a middle class population. Other clinics are referred cases from social welfare agencies. In another setting, a psychiatrist working in consultation with a normal nursery school in Michigan was called upon to appraise 25 percent of its population of 240 over a two year period of time. After working with parents and teachers, 2.5 percent of the total population had to be referred to other agencies (Westman, 1964).

Development of the Normal Nursery School

The nursery school has a long tradition extending back about 200 years. Associated with its experiments in education are names that represent a variety of European countries: Pestalozzi, Forebel, Montessori, and McMillan. Together they did much to overcome the resistence often repeated that a child should not be wrenched from his mother's "infinite wisdom" (Meyer, 1879). In addition, modern medicine has all but squelched the fear that communicable disease would run rampant in a small space with so many young children.

In America, the nursery school did not take its footing until around 1920 after the news of the European experiments with disadvantaged children washed to our shores. The curricula was originally focused on sensory-motor learning and the enhancement of cognitive development. The horizon was enlarged to include emphasis on the child's emotional development and mastery over conflicts in his life. This later trend most likely reflects the influence of Freud and Healy whose works were influential at roughly the same point in time.

Today we might conceptualize the nursery school as offering an opportunity for ego building exercises. The sensory games provided allow the ego a chance to meet forms, colors, textures, letters, etc., and discriminate differences. Similarly, games about life offer a chance to anticipate, identify, and participate in the emotions that accompany role differentation in varying social situations. Equally important is the chance to integrate sensory and emotional information by expressing the observations in speech, writing or some other motor response. In this process the group of a child's peers and a sensitive teacher act as catalysts. As a consequence, a child's ego develops more skills and a wider selection of interests from which to choose. With each success the ego feels more competence in coping with both cognitive and effective problems (Braun, in press).

If this account is accurate and not utopian, it is no wonder that there is a current clamor for the use of the nursery school for children that have special needs. Presently the nursery school has refound its past; preschool programs are proliferating all over the country to break the culture of poverty. What can be said of programs geared towards the emotionally disturbed child?

Development of the Therapeutic Nursery School

In a richly descriptive monograph Washburn (1944) reported what appears to be the first concerted effort to use the nursery school to alter the behavior of children with emotional problems. Covering a period of time from 1929 to 1936, this Yale Guidance Nursery used a core group of four normal children to which 40 children with problems were added periodically over a one school year period of time. These latter children spent variously from two to 115 days during the year. The major emphasis of staff work was concerned with making diagnostic evaluation of each child and working with his parents. The operation of the nursery school as such was relegated to listing briefly the advantages and expectations that such a program could provide for children.

The mothers were encouraged to observe their child at play in the nursery school prior to the appointment with the psychologist, which encompassed a discussion of mother's feeling in relation to her child and child rearing practices. She also learned what was age-appropriate for a child and how the teacher handled different situations. In brief, the mother's worker said: "We cannot tell you just what to do in any situation. We can show you what we do to help the child to eat his dinner, take his rest, stop sucking his thumb. We can tell you the reasons why we behave as we do and possibly you can find something that will be useful to you."

Parent work, as they perceived their program, was clearly the more important intervention. In this regard the evolution of the nursery school for disturbed children runs in a current opposite to the trend of the nursery school movement as a whole. In the nursery's early history, parents were not included in the programing until after they were judged uncooperative. In fact, not until McMillan demonstrated the necessity of working with parents did the focus broaden to include more than detailing a curricula for the child (Braun, in press).

In the early 1940's and 1950's guidance clinics at the Putnam Children's Center in Boston, the Child Development Center in New York City and the Hannah Perkins Nursery School at Western Reserve in Cleveland opened nursery schools as adjuncts to their treatment facilities. Several articles were published that describe case studies of preschool children with emotional problems. If the child attended nursery school the behavior patterns observed there were often recorded as additional data collected about the individual child. An understanding of the case work with the mother or play room sessions with the child were clearly the intentions of the narrative accounts (Rexford, 1949).

Even when a child was selected to attend a nursery school with no direct involvement with a play therapist, the focus continued on parent case work. Children selected for such a program have usually been carefully screened so that those children having internalized problems are omitted. To put this in another way those children with internalized problems are referred for play therapy or child analysis, sometimes in conjunction with a nursery school experience. But the advantages suggested for the use of the nursery school with children with developmental problems lead to recommendations that effect the case work: the worker can gain useful observations from the teachers; she can get some support in her case work with the mother; and mother is given some welcome relief from child care (Furman, 1957).

Other articles have appeared to clarify the differing roles of teachers and child therapist (Rexford, 1949). Through a study of 48 records of preschool children, Neubauer and Beller (1958) suggested contrasting the teacher and therapist as to their function. In succinct terms, the teacher is viewed as concerned with the present functioning of the child to enhance his learning process and to help him acquire new skills.

By comparison, the therapist is thought to be working with psychopathology as it interferes with normal development. No matter how finely we distinguish the job description of teacher and therapist, we are still faced squarely with a lack of data about the total program of a nursery school for disturbed children. The most active place in a clinic, the nursery school, is described in fairly passive terms!

Contrasts Between the Nursery School for Normal and for Disturbed Children

The nursery school teacher confronts a broad spectrum of child behavior. She can make pertinent observations of the child's cognitive and effective development. The awareness of the child's strengths and deficits and the way in which they are articulated, guides the teacher in her work. She assesses the child's ego as it contacts the inanimate world: his acuity of auditory and visual perception, his ability to abstract, his ability to verbalize or to use his gross and fine motor coordination to manipulate objects. She may from her observations introduce individualized materials that encourage sensory-motor skills.

In like fashion she may look at the child's behavior as he contacts and is contacted by peers and adults. Her first observation is basic and the most important: Can this child relate to people? Inappropriate or sterotyped behavior may preclude any relationship with others. He may not make eye contact or acknowledge a teacher's gestures and words. If he can acknowledge the presence of other people, she observes if he can use words. His actions may be uncontrolled and destructive to others. Some children may not be able to express any feelings. With the child at a higher level of development, the teacher can assess his ability to play with others in a group and the freedom with which he can experiment with various roles with his peers.

Her need to make careful and precise observations are essential. At the Frostig School for Educational Therapy (Frostig, 1962) a battery of tests are given which yield a baseline profile of the child's cognitive abilities. In contrast to the more normal child the teacher may find the unevenness of the child's abilities striking. This lack of an even blend or full orchestration of functions will be a major key to her planning.

Initiative for activities often has to come from the teacher so that her plans must be more concise, visible and easy to recall. She must take into account not only the child's individual differences, but also the group's needs. In addition she sets goals keeping in mind the social structures to which the child must adapt following his nursery experiences. The observations and plans the teacher makes for disturbed preschoolers are basic ingredients and not an ideal to which she strives.

A more severely disturbed child requires more concentrated attention with a constant person, albeit while he operates within the group. At times this ratio of child to teacher may be one to one. At the League School (Fenichel, 1963), the teacher focuses on cognitive learning in the context of an intense relationship and well structured daily program. Materials and relationship are used to not only teach but also to overcome hyperactivity, bizarre behavior or withdrawal.

At the Child Development Center (Alpert and Krown, 1954), a different approach is felt helpful. The child is allowed regression or infantile gratification "by plan" with subsequent steps taken gradually to frustrate the child. Although diametrically different theoretical positions are taken, both places have placed emphasis on developing an intense, interesting relationship within which demands are placed on the child. The League School, however, works with the more autistic type of child.

The use of the group in working with the less disturbed preschooler remains to be described. This type of child is not struggling with attempts to avoid or fend off making contact. Individual materials may still be needed for the promotion of cognitive skills with some children. For the most part, this child stands with both feet on the ground in the midst of adults and peers but burdened with gnawing feelings or self defeating behavior patterns. The teacher is prepared to offer materials that enhance group play. She is intent on helping the child put his feelings and inappropriate actions into words. Fantasies are not elicited or encouraged; the result of that type of endeavor leads only to exhaustion on the part of the teacher. And no wonder for she would be faced with giving individualized play therapy over a three hour period for five children simultaneously! Instead she constantly draws the group's attention to the various difficulties and strengths that individual children within the group fabric are manifesting and points to the mutual problems of the group.

With the passage of time it is likely that the group process itself will raise issues. Although not carefully studied as yet, children undoubtedly are beset at different points in time by common questions: What are we doing here? How can we be close to one another? Is it safe to be angry, etc. ?

Here then is another distinguishing feature. The teacher's comments are more explicit about feelings and behavior. She labors to describe them clearly to the children: the choices confronting them; her expectations of behavior; alternative ways to express feelings; and comments on the group interaction. Her own actions are also of great importance and often need to be clarified by comments to the children about her own feelings. Normal children would find this degree of explicitness unnecessary, if not irrelevant.

Another contrast can be made on the latitude of the therapeutic nursery school to tolerate idiosyncracies. Being labelled peculiar or strange is not a particular problem. The teacher also receives a good deal of support from her collaboration with other team members (Perutz, 1957). This support is a most welcome ingredient that often allows her to enjoy what otherwise would be a tiring and demanding job.

In summary, through her acquaintance with a group and with play materials the teacher functions as a catalyst to promote interaction and exploration. She also serves to organize the experience of the individual and his group in a meaningful way. In these two endeavors she is not unlike the teacher of normal children. There are factors that characterize differences between therapeutic and normal nursery school programs: In the former there is a greater need to make precise observations, plans that are more specific and structured, greater individualized care from a constant person, relationships that are more intense, comments and actions by the teacher that are made more explicit, a greater focus on effect, a greater latitude in tolerating aberrant behavior, and an increased need on the part of the teacher for support with other team members.

Future Issues

There are a number of questions in search of an answer. They are basic. What teacher/child ratio is optimal? In what way should groups be composed? How many days per week attendance is essential? How can we better conceptualize what happens in a nursery school? How can we best record events and interventions in the school? How can we effectively train teachers to meet an increasing need? Can disturbed children be handled as effectively in a group of normal children?

The nursery school is beginning to awaken again to meet the challenges that arise from its use with children who have special problems. The rubics of "taking the whole child into account" and providing "opportunities for creative play" have sufficed for close to forty years. It seems that we have begun to realize that these two slogans, important in their time, have kept us from the proper study of the child, his teacher, and his setting.

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FAMILY TREATMENT IN A THERAPEUTIC NURSERY SCHOOL

Iona Kaplan
Jack C. Westman
Donald J. Carek

Psychotic children are puzzling and frustrating to those who work with them. No one knows very much about the etiology of their disorders, no definite cure is known, and there is no established program for their treatment. Furthermore, therapists are continually discouraged by their very slow progress. Despite all this, or perhaps because of this, they present a challenge. There is an excitement in working with the unknown that is lacking in applying established principles and techniques to familiar cases. Workers in the field search for new methods of reaching these children, and explore new ways of looking at their problems.

A number of different causes of childhood psychoses have been considered. These have been widely reported and it is not necessary to recap them now. This paper reports on a therapeutic program which points out some implications of one etiological factor--the breakdown in family functions. The authors postulate that there are pathological family interactions, and focus on this particular determinant of the disorder in an effort to discover faster ways of eliciting changes. Therapy of the individual child is, of course, also a part of the whole program. In this report, however, the emphasis is on the attempts to alter the mother-child relationship.

Sometimes changes in human behavior can be brought about in unexpected ways, or situations can be restructured so that the same behavior is no longer maladaptive. But this requires the capacity to see old situations in new ways. An example of this has been provided by a Rand mathematician in Santa Monica: what to do with someone who habitually forgets in what drawers he has placed various articles of clothing. His deceptively simple answer was to put a complete outfit of clothing in each drawer, making it necessary to open only one drawer in order to find all of the clothing needed.

For years, attempts have been made to change patterns of parental behavior by verbal communication between therapist and parent. These traditional methods have generally proved to be slow and only moderately effective with parents of psychotic children. Instead of searching for new things to communicate, the authors' group has asked whether other techniques for changing mother-child relationships might not also be appropriate. The possibility being explored is the use of direct visual and auditory example.

At the University of Michigan, in the Children's Psychiatric Hospital, the strategy of providing a model, or exemplar, for the mothers of psychotic children is currently being tried, in conjunction with established forms of therapy. The hope is that the addition of this special technique will provide a faster way of moving the mothers. Rapid progress is important not merely because of practical or institutional needs, but because of the assumption that the more quickly a psychotic child's patterns can be altered, the brighter the prospects in what is at best a dark prognosis.

The technique of providing a visual and auditory example for mothers has indeed moved them rapidly in the authors' experience, sometimes dramatically so. This technique breaks through the mother's self-centered preoccupation with her own disturbed behavior patterns and focuses her attention instead on the child and his needs. The mother is like the child who needs identification figures in that they face the problem of developing satisfying ways of dealing with the world. Moreover, initial resistance is to some extent bypassed because the mother is not called upon to confess, as she sees it, her shortcomings in her treatment of the child. Instead, a demonstration of effective ways of relating to the child under certain circumstances is given her and in which she feels encouraged to make these ways her own.

Most of the mothers with whom the authors have dealt are immobilized by their unconscious feelings of anger, hate, and guilt. When they see what is done, how it is done, and what results are achieved, even though they have no understanding of why or what made it so, they are able to repeat it at home, at least in part. It is almost like a cooking demonstration; to produce a light, fluffy souffle it is not necessary to understand why the ingredients should be mixed in a particular order, nor why the batter should be folded in rather than blended in. This is not to say that recipes can or should be followed in raising children (indeed, doing so is often an invitation to disaster), but a practical demonstration, if it is treated as no more than a beginning, may be a valuable learning experience.

We start the treatment with the mother and a staff member observing the child's interacting with a teacher through a one way mirror. The therapist helps the mother to perceive more fully, and to understand the teacher's approach to the child, as well as the child's behavior and responses. One of the features that we have observed most regularly characterizes the relationship of mothers to their psychotic children. This is evident in the mother's difficulty in picking up and understanding the child's cues to her, and in being aware of the signals that she in turn is transmitting to the child. She is also unaware of the cues to which the child could respond. This technique of observation combined with interpretation has the effect of improving the flow of information between the mother and child. This improvement may or may not result from the mother's awareness. In any case, the mother imitates the teacher's more effective way with the child. Changes are quickly brought about in the mother's management of the child, and a continuity between school and home is established. We regularly find that there is a spectacular change in the child within the first few weeks.

We are not aiming to have the mothers merely go through the motions in imitating the teacher. The mothers not only see, but we hope they gradually become aware of their own feelings as the therapist interprets their child's feelings to them; the therapist then moves into the mother's feelings about what she is viewing. Going through the motions of imitating is what happens first, but changed behavior must come spontaneously from intrapsychic shifts.

This program has been in operation only slightly over a year, and, therefore, is hard to evaluate properly. Of the seven families in the school, one has been in such treatment over a year, one for approximately six months, and the others for less time. In addition to group activities of a limited kind, each child spends a half hour each day, five times a week, with a teacher-therapist. This specialing is a combination of psychotherapy, mothering with awareness, and nursery school teaching. This is what the parents usually observe. The child also has a child psychiatrist, and the parents have a social worker. The team is supervised by a senior staff member.

Kitty L.

Kitty was placed in a nursery school when she was four years old, then in a school for the mentally retarded when she was five. She was referred to us when she was seven and one-half years old. She had been classified as nontrainable, but it was suspected that her intelligence was higher than she showed. The psychiatrist who first dealt with the family thought that very likely there was a symbiotic relationship between Kitty and her father.

When we first saw Kitty, she looked and acted like a fragile, porcelain doll. She was dressed in an expensive frock with several layers of stiff petticoats underneath. She was utterly helpless. She had no language, drooled, could not manage stairs, needed to be fed, and was not toilet trained.

In the first session, contrary to her belief, the mother was shown that Kitty understood what we were saying to her, and could follow through on a simple task, such as throwing a paper cup away in a wastebasket. Subsequent sessions showed that Kitty could be motivated to feed herself, and could even be taught to manage a fork reasonably well. As expectations were increased at school, more was expected of her at home. The drooling ceased, and she started using a few simple words. She was no longer carried upstairs; she learned to negotiate first by crawling and later by walking up one step at a time. These changes were brought about in the first four months of Kitty's enrollment in the preschool. More important, however, is what the mother was able to accomplish. She began to adopt the empathy, humor, and perserverance in dealing with Kitty's passive negativism that was part of the teacher's approach. The family pattern was broken, and the pathology is gradually diminishing.

Janie H.

Janie was the first child we worked with in this fashion. She has been diagnosed as symbiotic with autistic traits. She is the oldest child of college educated parents in the middle income group. The mother is an attractive, rigid, and self-centered woman. The father is handsome, ambitious, and cold.

Pregnancy was normal, but the delivery breech and difficult. During the first nine months of Janie's life, her father worked a swingshift, from five in the evening till after one in the morning, and he often worked overtime. Mrs. H., a young, inexperienced mother, was thus left alone most of the time with her daughter. Starting at three weeks of age, Janie began to cry for long stretches of time. The mother remembers being concerned that the crying would disturb the neighbors, and that they would think that the child was neglected. We thought it significant that the mother was concerned not with causes of the child's crying, but effects on other people. Mrs. H. also remembers that she spent much time dressing Janie in cute outfits. The overall impression given is that she was playing at being a mother with her new infant.

When I first saw Janie at four and one-half years of age, she was without language, had no eye contact, and experienced uncontrollable rages during which she violently banged her head against the floor or the wall, after which she wanted to be held; and she was extremely distressed by any changes in her schedule or physical surroundings.

Despite much ego support, Mrs. H. was, and still remains, ambivalent about the program. She alternates between verbally rejecting it, saying she cannot spare the time, and being angry if any appointments are cancelled, calling us up in panic and depression. Nevertheless, Mrs. H. and Janie have made significant progress; it has been in spurts. Usually Janie reaches a new level first, then Mrs. H. panics, there is temporary backsliding, then both reach a new level. The pathological attachment remains, weakening only gradually; still, both achieve a higher plane of functioning.

To illustrate the progress: during the first session, Mrs. H. was amazed at the close physical contact between the teacher and Janie. When she was asked as to her own handling of Janie, her replies were very confusing. At first she said she always held Janie, then she amended this to say that when Janie cried as an infant she had been placed on a pillow and carried at arm's length. Next she said that by close contact, she meant that Janie sat next to her on the couch, and finally she said that after her bath Janie snuggled against Mrs. H.'s nylon slip and rested her head on her mother's shoulder. (Mother removed her own dress when bathing Janie.) Wherever the truth lay, we did notice a change in Mrs. H. in those first few weeks. Heretofore Mrs. H. had been very brusque with Janie, taking off her coat and boots with unnecessary harshness and treating her as if she were a thing not a person; now a softness became apparent in her attitude, and at least on the surface there was a great deal more warmth.

Again, the first time Mrs. H. observed the teacher follow through on some action (in this case putting a chair in place) Janie stamped her foot and stormed about, but finally did what she was told to do. Mrs. H. said that she had never asked Janie to follow through on any task, and that she would not have thought it possible to get Janie to do it.

One more example of Janie's rages: It was demonstrated to Mrs. H. that Janie could be helped to understand that she is a person, not a thing, that when she is angry, she is angry at someone other than herself, and that she can direct her anger outwards without destroying herself or another person. We soon heard Mrs. H. using the same words we had used, even imitating our gestures and intonation. Surprising was that Mrs. H. thought that these words and gestures had originated with her, so completely did she incorporate them into her own way of reacting to Janie.

What is Janie like after a year? She has eye contact, she uses a few words, she plays with toys in a meaningful way, and she is exploring peer relationships, although on a primitive level. She has started to attend a kindergarten for normal children for a short time every day, and is making an acceptable adjustment there.

The sample worked with, of which these two cases are an illustration, is, of course, ludicrously small for inductions, but even one striking case may be enough to stimulate an inquiring mind to the formulation of hypotheses. With this in mind, the following is a report of some additional findings that seem suggestive: Of the seven mothers, four are the youngest of large families. In two cases where we were able to see the grandmothers, the mother of the psychotic child closely resembled in looks, language and mannerisms, the paternal grandmother. This similarity is so marked that we assumed at first, in both cases, that it was the maternal grandmother we were meeting. Also, all fathers would be considered handsome - models for American advertisers, and this assessment is shared by our coworkers. The mothers are all chic, well dressed, self-possessed, with the appearance of good mothers as depicted by glamor magazines. This is a trait of the mothers of psychotic children that has also been noted by other workers in the field. It may also be worthy of note that four of the seven children (all girls) were left-handed; the only other girl was ambidextrous.

The results obtained so far in this treatment plan seem to the authors sufficiently promising to warrant a continuation of the program. Present plans are, in fact, to extend the program not only to the patients, but also to enlarge the scope of family relationships to be explored by including siblings and grandparents.

THE TEACHER IN A THERAPEUTIC PRESCHOOL PROJECT

Marianne Cook
Paul L. Doerring

Among the many approaches to the treatment of emotionally disturbed children, few have been particularly applicable for the work with the very young child. These children are typified by their problems of communication and understanding, emotional confusion, and lack of ability to form attachment to significant adults in their lives and are given to great frustration as a result of their inability to experience enough positive accomplishments.

An approach which had demonstrated potential for treatment of the young child with psychological disturbance occurs through a combined effort which utilizes a therapeutic preschool and individual psychotherapy. Such a program is now operated jointly by the counseling and psychotherapy program of The Merill-Palmer Institute and Children's Center of Wayne County, Detroit, Michigan.

The therapeutic preschool unit is staffed by the two treatment centers and includes a team of two special education teachers plus clinical psychologists, psychiatrists, social workers, and personnel from early childhood education. These people serve as consultants to the teachers and also provide direct clinical services. The therapeutic preschool serves children age two to six years who exhibit moderate to severe psychological disturbance and who indicate potential of average or better intelligence. The preschool is comprised of two groups of five to six children, which meet for two hour sessions twice a week.

Concurrent with these sessions for the children is a group experience for their mothers who remain as a separate group during the hours their children are in the therapeutic preschool. In addition to participation in these groups, the children and parents receive individual psychotherapy. Thus, the therapeutic preschool is an integral part of the total treatment program for these emotionally disturbed young children and their parents.

Admission into the therapeutic preschool presupposes a commitment by the parents to the total treatment program. Hence, as part of the treatment plan for a family, participation in the preschool is viewed as an additional experience and not as an alternative or substitute for individual psychotherapy.

The therapeutic preschool was based on the ideals, attitudes, and practices that would be most beneficial to the normal healthy child; the therapeutic component accrues through additions and modifications. Within that framework it was felt that the teacher could operate as a teacher, and not be forced into the position of a watered down therapist.

In considering the content for this paper, the areas which could accurately portray the personality of this particular preschool project were sought. The final avenue for this effort evolves mainly out of the reflections, planning, and activities of the teacher who, of all of the many professionals involved in this project, have the greatest contact with the children.

The central theme in this project is the attempt to create success experiences for each child. In a classroom of healthy children it is often difficult to consider the individual differences among children, but in the therapeutic preschool group it was immediately evident that extreme care would have to be given to such factors as: (a) the physical environment; (b) the inherent structures, such as the variables of time and location; (c) the sequence of activities; and above all, (e) the emotional climate of the group.

Physical Environment

The teachers were involved in the planning of room arrangement and equipment selection on a from the ground up basis. For example, this meant that every object placed in the preschool was selected on the basis of its facilitating certain preconceived objectives for these children.

First, the room was arranged so as to create a maximum of uncluttered space in order to encourage optimum movement for both teachers and children. Also, equipment was initially kept at a minimum with the notion that fewer toys in the beginning would motivate whatever peer interaction potentials were existent in the two groups. In addition, it was felt that initially limiting play equipment could particularly aid those children prone to becoming overwhelmed by stimulation.

Although the necessity of open space was clear, it was evident that each child would form his own boundary and island within that space. For example, some children would immediately upon entry anchor themselves to the sink, the reading table, or the puzzle shelf. In this way each child was able to attain that initial sense of self-definition and security necessary to eventually enable him to move into less predictable and more stimulating and enlarging activities.

In the final selection of equipment equal attention was given to the nature of the children involved and the plans for helping them. The toys, for example, were selected partially for their potential for convertibility; convertibility meaning that a set of blocks might be preferred to an electric train, since the blocks can become so many things, limited mainly by the child's own ingenuity. Also, toys which lend themselves to a variety of uses would allow parallel or even integrated play by two or more youngsters, even though the children might differ greatly in degree of proficiency and interest.

The convertible properties of toys offer additional advantages. First, the total number of toys can be cut down and thus lessen to some degree the amount of stimulation which faces some of the more hyperkinetic children. Second, many of the children involved appear more attached to the world of objects than to persons. It was felt that toys offering many uses would provide the greatest avenues for people to be involved with the child's objects, in the hope that at some point the child could allow himself to accept more directly the human feelings which could be afforded around his toys.

Another facet which evolves out of attention to the physical environment of the preschool is the inclusion of equipment that not only invites, but often necessitates the participation of a second child or adult. This type of equipment was gradually introduced and strategically placed as the separate children indicated an interest in play with others. As mentioned before, many, if not most of the children, appeared ill equipped and very reticent in attempts to establish positive contacts with others in the group, much less to invite them into cooperative play. By prematurely pressing the children toward cooperative play, some of the more reticent children felt threatened; while the more outgoing children were often frustrated and hurt when their invitations for mutual play were turned down by less able children. Initially, the two teachers filled the role of play partners, and gradually supported and mediated until some of the children could feel assured and skilled enough to achieve success in peer relations.

The goal of the teachers is to convey to each child the feeling that he is respected and that his present choice of play is valued, whether it be with a group or in solitary activity.

The exhaustive diagnostic material available was used often in much of the preplanning, as well as in daily ongoing decisions. Long before any one child was in attendance at the therapeutic preschool it was already clear that they would be greatly centered on themselves, and that cooperative play would be exceedingly hampered if a child was asked to share beyond his ability. That is, the idea of sharing initially was often too frustrating to certain children, while others had equal difficulties in protecting their right to continue with a toy. Both of these features of the children's reactions were taken into account and met by having a stock of backup toys or replicas which might be coveted by two children at the same time. Often, by having two equal or nearly equal toys it was possible to turn a potentially frustrating and painful experience into one where two children played in a parallel fashion, hopefully leading to cooperative play at a later date.

Inherent Structures--Time, Location, and Sequence

The specific information about the children who were served, as well as general information about young children, indicated that children function at improved levels depending upon the various structures offered. Some of the physical or more tangible structures have already been discussed; however, because of necessity the search went on for the less tangible, but nonetheless real boundaries, which were already in operation.

Time. The first of these items is the structuring facility of time. An example is the knowledge to both the mother of the child, and to some extent the child, that the teachers will be available for that child on specific days of the week and that the face to face relationships start at a certain hour and end at another; this being highly predictable. First, this permits the demonstration of certainty and consistency to the child, these being foundations for dependency and later for trust. Second, it tells the child, his mother, and the staff, that the teachers and therapists cannot become the child's fulltime caretaker or mother substitute, thus indicating that the relationship will be filled with temporary separations and unitings. The fact that the child leaves the preschool only to come back again is useful not only to impress upon him staff reliability, but moreso the reliability of his parents in providing the child with this experience.

The specificity and regularity of events and the time between meetings is another possible advantage, in that the child, no matter what the events, is assured some relief from some of the intensity that often builds up during his morning in the preschool. The reverse is true also, in that if the situation is hectic and troublesome in his own home, he can plan on the relief which his visits to the preschool afford.

Space. In the same manner as time serves as a definition, so does place. The preschool room remains in exactly the same location from meeting to meeting, and the arrangement of the room is much the same.

The children served in this project are not adversative to the novel and the unique; yet, one quickly observes that they do not relish surprises. These children's backgrounds are filled with such inconsistencies that they often react with great caution when things are changed. An example of how sudden alterations can be threatening was the day a teacher changed her hair style; the subsequent events indicated that certain children did not appreciate this at all. However important the physical surroundings may be, the consistency of the teacher's attitudes is, in the final analysis, the most important factor.

As time passed with the children's needs and expectations increasingly met, they became able to tolerate shifts in space and furnishings, and furthermore, they were able to accept the teacher's altered (heightened) expectations of them in coming to terms with the changing and inviting world.

Sequence. For children, a regular sequence of activities during a morning is likely to be most easily accepted. Anchors or predictable activities are carefully planned throughout, such as juice time, outside play, structured activities and so forth. Far from limiting the group to the pedantic and mundane, this provides (a) the predictability which greatly eases, (b) surprise and anxiety, and (c) creates the safe arena where the new and innovative can be introduced and experienced.

Groups or Individuals?

The project is now at a point where certain comparisons can be made between the long term group, those having been in treatment in this project for over a year, and the short term group of children who have been in the project for seven months or less. Initially, the children in both groups were seen as an assemblage of individuals who were withdrawn, angry, or distractable and driven to the degree where attempts to help them toward success were often frustrated.

Although only limited success was possible at first, the teachers persisted in offering a willingness to interact, stimulate, and assist in such a way as to demonstrate reliability and usefulness to each child. The teachers were ever present for these children, although consciously resisting attempts to overpressure or to eagerly seek out a child. Rather, within human limits, the teachers attempted to content themselves with the knowledge that each individual child has his own schedule as to how he can accept relationships and human contact. Over a period of time a relationship was formed with each child, and on the basis of these relationships movement was made toward bringing the children together. As expected, initially, some children jealously attempted to keep the teachers for themselves. However, gradually it became possible to show that the teachers had sufficient nurturance for them, as well as a supply remaining for the next child; thus they were able to pull individuals together in order to promote and encourage contacts between them.

The findings with the long term group are quite clear as to the attempts to encourage these children into group activities. At the end of 14 months a remarkable degree of group cohesiveness and interdependency is evident. These children are well on the way to discovery of the pleasure and mutual assistance which can be obtained from their peers. They often serve each other as supporters, controls, stimulators, and are even able to allow open anger without destroying a relationship. It is now possible to invite the group into new activities, with the result that nearly all in the long term group will come and remain long enough to determine whether or not that activity is for them.

A striking example of what these children have accomplished occurred around a recent trip to a pet shop to replenish materials for their aquarium. In spite of the children's heightened anticipation, a ride in the station wagon and a don't touch attitude from the pet shop owners, the children handled themselves beyond expectations and the experience added to each child's confidence.

The Emotional Climate

Creating a climate of emotions conducive to aiding these children in their growth has been of prominent interest to all in this project, but particularly so for the teachers. Out of mutual attempts to aid these children has evolved a team teaching approach.

The team idea was a direct outgrowth of two adults attempting to create success experiences for these children, and the resulting awareness that feelings (meaning those of the teachers, children, and supporting staff) would be the key to eventual accomplishments. Early in the contacts with these children the teachers felt pulled in six different directions at once. They felt the heavy tugs of children seeking total nurturance, the kind which seemed to literally drain life's energy from an adult. There were also those experiences of attempting to approach the child who gave the outward appearance of isolating himself, with his resultant feelings of rejecting and clinging at the same time. Woven between these experiences were the abrupt and cataclysmic emotional releases of a child or the one who simply tested, tested, and retested a limit which was being set.

In the process of attempts to extend themselves to these youngsters, the two teachers found that their attitudes toward these children were greatly akin, and that although they are definitely different, their attempts to help were remarkably accepted by the children as equal. Out of this it was concluded that the two teachers had a great deal of interchangeability, in that one teacher was a good substitute for the other in a situation where the emotional level was running too high for either the good of the child or teacher. As a result of their high degree of interchangeability, the teachers were able to move in and dilute the intensity of the emotional climate at crucial points. That is, when a situation between a child and a teacher, or between a child and a child, become either too intense or too turbulent, either teacher could intervene. Because of her more even feelings at that point, she could dilute the emotional atmosphere and thus allow the child to conquer the situation.

The joint ability to create and maintain a climate of fairness, openness, and assurance has produced some obvious firsts for many of these children. For example, in the therapeutic preschool room itself children have said their first word, a complete sentence, a smile laugh, a first direct eye contact, a first glimpse of interest and success at internal control. It is this total environment which provides the proving ground where the child makes first attempts. Later, the child will test these same things on the more intense one to one relationships with his parents and his psychotherapist. It is not the efforts of the teachers alone, but the combination of the child's individual treatment to that date, changes in his parents, and even his contacts with janitors, cooks, and whomever has stopped long enough to relate to him.

Consultation

The project has consultants from early childhood education, clinical psychology and psychiatry. These consultations on a regular basis, plus incidental discussions, are geared to help implement the emotional climate already discussed. The consultations may focus on the teacher's own internal feelings--whether they pertain to other staff members, self-adequacy, or a particular child; suggestions for dealing with a particular child and his current difficulties; or can aid with curriculum development. Consultation is consultation, not direction, in that information or suggestions are used at the teacher's discretion.

The therapeutic preschool project was formulated and maintained through consultation and collaboration as an integral part of the total treatment program. This has meant that the educative experience has had definitive therapeutic overtones, but the early belief that it could become even more therapeutic than additional psychotherapy has been amply demonstrated.

The autonomy of the teacher combined with her role as an integral member of the team is, from the teacher's viewpoint, one of the most important factors influencing her performance. In such a combination educative therapeutic project, the teacher serves best if her own professional role, along with the basic integrity of the preschool, is clearly maintained in her own perception and in the experiences of the children.

REINFORCEMENT TECHNIQUES IN THE GUIDANCE OF NORMAL PRESCHOOL CHILDREN

Florence R. Harris

The theory that behavior responds to its immediate consequences has for three years been under study in the field situation of the Developmental Psychology Laboratory Preschool at the University of Washington. A common and readily controlled consequence of the behavior of all young children is adult attention. Therefore the preschool staff, with the advice and counsel of Sidney W. Bijou, Montrose M. Wolf, and Donald M. Baer, chose to study the effects of adult attention on problem behaviors observable in normal preschool children. By "problem" is meant such behaviors as usually cause concern to teachers and parents and for which special guidance is indicated. Behavior studies have included regressed crawling, excessive crying, lack of motor skills, lack of speech, excessive dependency, isolated behavior, and aggressive and disruptive behaviors. A review of one of these studies should exemplify for you our procedures and the nature of our findings.

An early study, done by Margaret K. Johnston, C. Susan Kelley, Montrose Wolf and the author, focused on the problem of a three year old boy whose utter lack of vigor and skills of any kind was of serious concern to his parents and to the teachers. Daily, Mark simply sat in the sandbox with mouth slackly open, or wandered aimlessly about, while other children climbed, rode trikes, and engaged energetically in varied play. His rare and inept approaches to children usually disrupted their play. Their approaches to him were usually ignored or rejected. By spring quarter, his weak and ineffectual behaviors were seriously depriving him of opportunities to acquire motor, social, and general play skills. The teachers reported that they steadily attempted to encourage his activity through traditional procedures of suggesting, inviting, and structuring attractive play situations, all to no avail. A medical examination revealed no physical cause for his listless behavior. It was decided to study effects on this behavior of systematic social reinforcement of vigorous play.

Since vigorous play is very difficult to define and to record reliably, the teachers decided that Mark's use of a piece of climbing equipment referred to as the climbing frame would serve as an easily observed measure of his activity. Though about one and one-half hours each day were spent outdoors, Mark had never been on this equipment. An observer was therefore assigned to get initial objective records of the time he spent in contact with the climbing frame, the amount of time he used other climbing equipment, and the amount and timing of the teacher attention he received. Using a clipboard, a stop watch, and a behavior code, the observer kept records in ten second intervals throughout the outdoor play periods for nine days. This procedure secured a precise account of the behaviors under the conditions prevailing before any systematic control of social consequences was begun.

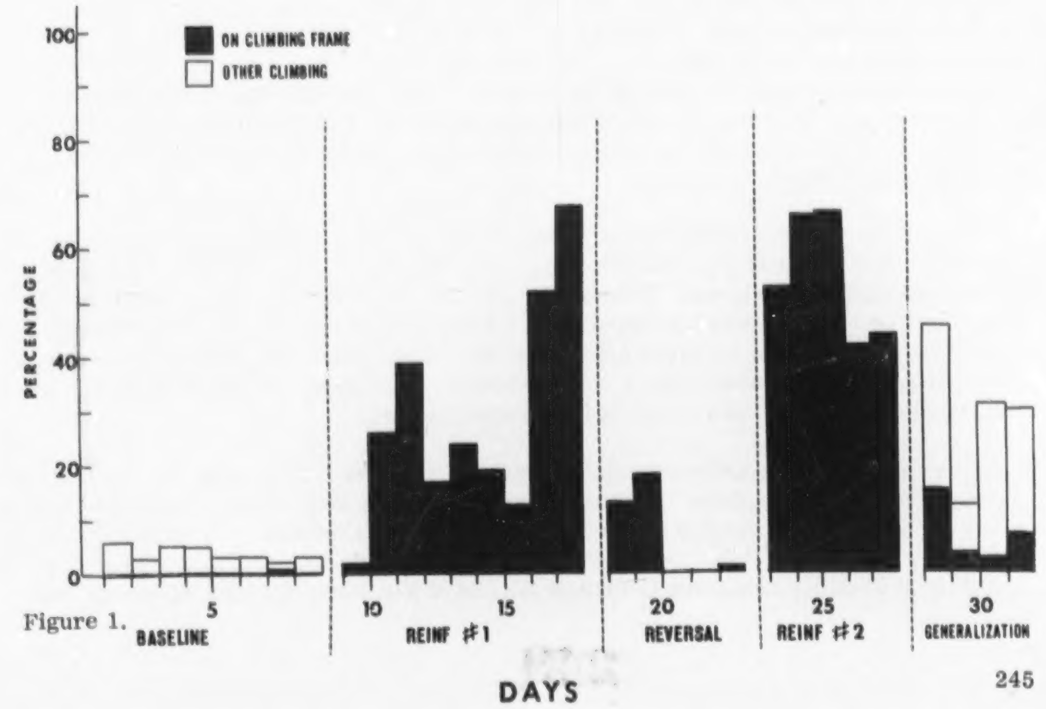

Figure 1.

The record of this period (baseline) showed that the child was indeed doing very little climbing of any kind (less than five percent of the play time) and that he touched the climbing frame only once for a few ten second intervals, on the eighth day. The records also indicated, however, that Mark was getting adult attention for about 40 percent of the playtime. In effect, he received a great deal of adult attention as an immediate consequence of his listless, aimless play.

Systematic reinforcement procedures were then begun. One teacher was assigned as reinforcer teacher so that the planned reinforcement could be given immediately and without fail. The reinforcer teacher was to give the boy her full and pleased attention whenever and for as long as he touched the climbing frame. She was to turn to other children and/or duties the moment he let go of it. He was to receive no attention consequent upon inactive behaviors.

To begin with, there was no climbing frame behavior to reinforce. But the boy did occasionally wander down the walk near the climber. Therefore, the teacher reinforced the behavior that came closest to the desired behavior; that is, she gave him smiling greetings when he wandered to within six feet of the frame. He paused briefly and looked at her. Then he wandered on. At that instant, the teacher turned away. Shortly he wandered back, a little closer this time, and again was given smiling attention. He paused longer, losing teacher attention only when, but as soon as, he moved on. By the end of half an hour he was touching the frame. Soon he was on it. The procedure the teacher used to secure the desired behavior is called reinforcement of successive approximations to the behavior. The tenth day on the graph shows the percent of climbing frame behavior on the first day of systematic reinforcement. By the close of the ninth day of systematic reinforcement he was spending about 60 percent of the outdoor play periods on the frame, usually in vigorous action.

The records also indicated that, while practically 100 percent of Mark's climbing frame behavior was reinforced, he did receive adult attention at other times. The teachers gave help with necessary routine matters and when he interfered with other children in ways the teachers thought they could not ignore. The teachers noted that his contacts with other children seemed to be increasing in number, since a teacher and child having fun at the climber often attracted others to the equipment.

By the close of the eighteenth day of the study, teachers considered that Mark had developed a very adequate amount of climbing behavior. To test whether this had been achieved because of their procedures, they reversed the reinforcement contingencies. They gave no attention to Mark so long as he was touching the climber, but gave almost continuous attention when he engaged in any other play. After the second day of this procedure there was practically no play on the climber. After the fifth day of reversal, the teachers considered the evidence sufficiently conclusive that their systematic procedures were responsible for the change in behavior. Therefore, they returned to the original reinforcement procedure.

During the second reinforcement period, Mark spent an average of more than 50 percent of the play times in vigorous climbing on the climber. One or more of the other children often climbed there, too. Practically all of Mark's climbing frame behavior was reinforced. The teachers noted, however, that a much smaller proportion of Mark's behaviors other than climbing received adult attention. They judged that this might be partly due to the increasingly friendly nature of his contacts with others, and perhaps partly due to increasing motor skills with wraps and bathroom routines.

After five days of continuous reinforcement of climbing frame behavior, the teachers judged that they had accomplished their objective. Mark was behaving in a vigorous fashion for much of the morning. He was developing skilled climbing behavior. They decided to diminish gradually their reinforcement of climbing frame behavior, and at the same time to extend their attending behaviors to include his use of any other climbing apparatus and to his use of the easel for painting. No record was kept of Mark's painting time, of which there was a good deal, but the final four days on the graph show that climbing behavior continued at adequate levels (an average of about 30 percent of the mornings). Postchecks the following year confirmed the fact that Mark's climbing behavior and vigorous activity were well established. Presumably the behavior came under the control of other reinforcers, both intrinsic in the activities and from peers.

The procedures used involved five phases: (a) a baseline description of the behavior of concern; (b) systematic social reinforcement of desired behaviors and ignoring of the problem behavior; (c) reversal of reinforcement procedures to ascertain whether the systematically given adult attention was actually the causative factor in whatever changes occurred, (d) reinstatement of the original reinforcement procedures, and (e) gradual decrease of the number and duration of reinforcements as the behavior came under control of other reinforcers, intrinsic and extrinsic. The fifth phase included generalization of the behavior to other situations, if this was appropriate. The objective, of course, was that the desirable behavior be maintained by whatever reinforcements were normally available in the situation.

During each study, parents were, of course, brought into the program through frequent conferences and regularly scheduled observations. Wherever feasible, the teachers asked parents to cooperate with similar specified procedures at home, to record what they did, and to report results.

Briefly presented are some other studies, using graphed data for illustration. The study shown in Figure 2 was done by Betty M. Hart, K. Eileen Allen, Joan S. Buell, Montrose M. Wolf, and Florence Harris. The subject of the study was a sturdy, capable four year old boy who burst into loud crying, with tears, over the most mild of bumps or scrapes. According to baseline records, which are graphed in cumulative form, his agonized wails rose about eight times every two and one-half hour morning. They usually drew adults promptly. Then reinforcement procedures were begun. Within five days of teachers giving no attention whatever to crying episodes, but giving smiling attention to a great many of his really effectual behaviors, crying dropped to about one episode per week, an amount considered acceptable by the teachers. The reversal posed a problem, since

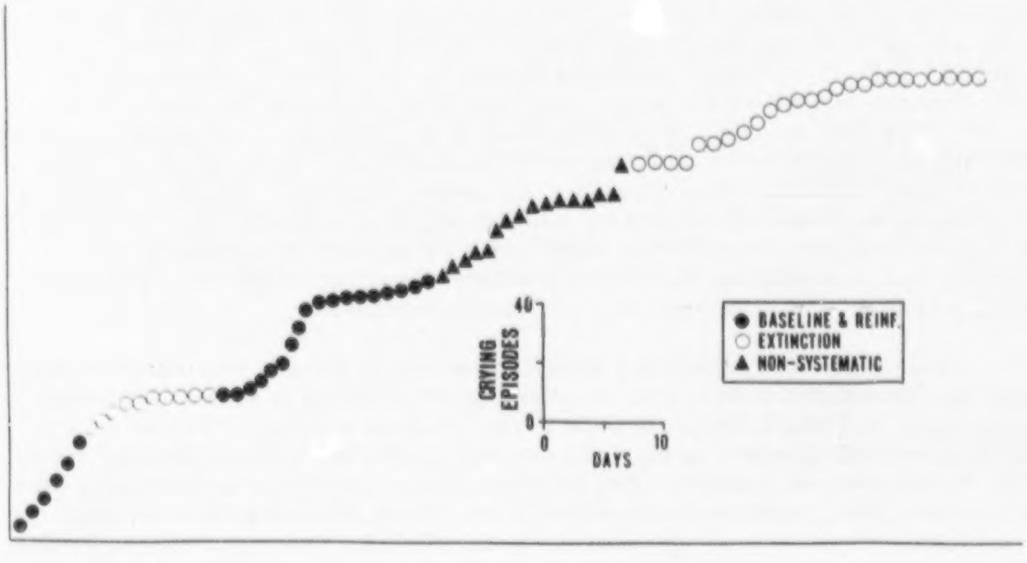

Figure 2.

there was no crying behavior to reinforce. The teachers, therefore, watched for puckered brows in response to a minor bump, and immediately were there with solicitous commiserations. It took several such successive approximations to get whimpers, but by the fourth day there were six strong crying episodes. Teachers could not get crying back to the high baseline rate, but the average of between five and six episodes per day for the next six days seemed ample evidence that the behavior was indeed responsive to its consequence of adult attention. When the original procedures were again instituted, the crying rapidly disappeared. It did not recur as a problem during the remaining two quarters of the year. The following spring, a similar problem with another child was successfully treated through similar systematic control of the consequent adult attention.

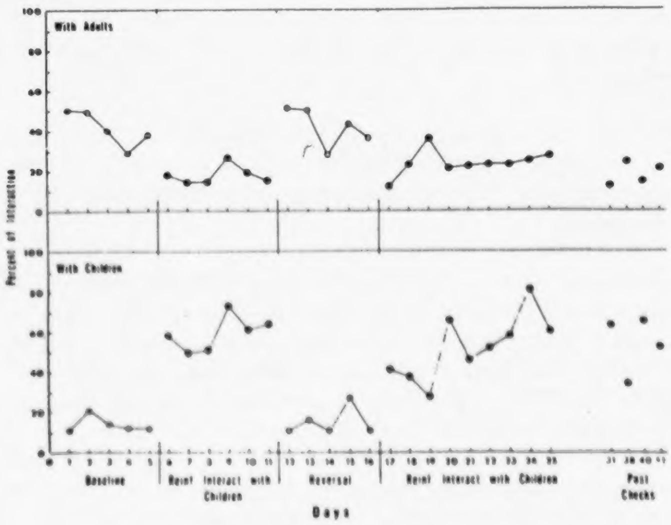

Figure 3.

The study shown in Figure 3 was done by K. Eileen Allen, Betty M. Hart, Joan S. Buell, Montrose M. Wolf, and Florence Harris. The graph shows a study of systematic variation of the social consequences of a child's isolate behavior. Although the data present behaviors of a four year old girl, Ann, they are also equivalent for illustrative purposes to data secured in a similar study of a three year old boy who showed very similar isolate behaviors. Both children were highly intelligent and very competent children. As the baseline shows, with the traditional supportive efforts of teachers to encourage her into play with other children, Ann was spending about ten percent of her mornings in interactions with children, about 40 percent in interactions with adults, and almost 50 percent of her time in solitary pursuits. The solitary play had become alarmingly desultory: wandering about the yard or rooms, or sleeping for extended periods in a packing box or a doll bed. Ann also had many well developed and varied skills for gaining and maintaining adult attention, such as invisible hurts, low and drawling speech that dwindled to whispers requiring repetition to be understood, and teacher-helper behaviors.

When the teachers consistently gave attention only to her play with other children, social play immediately rose to about 60 percent of her mornings at school, while interactions solely with adults dropped to about 18 percent of the morning. After six days of this reinforcement schedule, during which Ann was transformed into a smiling and eager child, the reversal was instituted. Her behaviors at once reverted to approximately what they had been during baseline, ample indication that the social consequences that were systematically varied were actually controlling the behavior. The teachers then returned to giving attention consequent solely upon play with children. Social behavior with peers, however, remained strong, and the behavior was well maintained throughout the year.

The studies presented indicate the nature of our field studies of normal children. They are also typical in principle of our work with a few exceptional children. In every case, we have found behaviors highly responsive to their consequences. We have also found that adult attention is an exceedingly powerful consequence, tending to increase those behaviors which it consistently and immediately follows, and to decrease those behaviors from which it is consistently and immediately withdrawn. In other words, adult attention is a powerful reinforcer.

If a behavior is already available to a child, as, for example, non-crying behaviors were available to the crier for solving his problems, then systematic use of an effective reinforcer can rapidly change the behavior. If, on the other hand, the child has merely the mechanisms required, and must learn the desired behavior, then the process may take much longer, although the reinforcement procedures remain the same. Developing speech in a nonverbal child is an example. A carefully planned program of successive approximations to the behavior is essential. In such a case, of course, no reversal seems necessary.

You may already have noted that in studying a child with a problem all of his behaviors are first examined. Then a single behavior is selected which is judged to be most crucial, it is observed in detail, and then procedures are planned for working with it. Usually, helping a child with this single aspect of his behaviors has a positive consequence on all his difficulties. If, however, some other behavior remains or emerges as a significant deterrent to his development, that single behavior is worked on next. It has been found that this approach to one behavior at a time can be managed by a teacher and that reliable records of the behavior changes can be secured.

In brief, then, the teachers follow two general rules for helping young children learn: (a) Reinforce immediately those behaviors which are desirable. At first reinforce continuously every time the behavior occurs. When the behavior becomes strong and/or consistent, gradually reduce the reinforcements. (b) Immediately withhold or withdraw reinforcement every time the undesirable behavior is observed, and withhold reinforcement for the duration of the behavior. These two procedures seem to embody the essence of effective nursery school guidance.

THE MURFREESBORO PROJECT - COGNITIVE APPROACHES TO CULTURALLY DISADVANTAGED CHILDREN

Rupert A. Klaus

The Murfreesboro Early Training Project had its beginning in 1959. The Murfreesboro school system, which serves as the field center for Peabody's School Psychology Program, identified progressive retardation of disadvantaged children as one of their perennial problems which they would like to see subjected to intensive research. In response to this, the faculty and students in the school psychology program at Peabody identified forty culturally disadvantaged children who were to enter school the following fall, and provided a randomly selected sample of twenty of these children with a ten week enrichment program during the summer. The program emphasized improvement of the child's achievement motivation, and cognitive functioning. The results of this somewhat hastily planned and executed program were generally in the predicted direction, yet the results did not meet tests of statistical significance. They did, however, suggest that a more intensive effort should yield positive and significant results.

An application was made in February 1961 to the National Institute of Mental Health for support through the Mental Health Projects Grant Program, and support was granted under project number MH - 765, with Dr. Susan Gray and Dr. Rupert Klaus serving as codirectors.

The project hopes to demonstrate that a carefully planned preschool program can offset the progressive retardation in cognitive functioning and school achievement characteristic of the culturally disadvantaged child, without harmful effects on the child's mental health.

A careful research was made of the literature to determine the major variables on which the disadvantaged child differs from the more privileged child that possibly would have some bearing on the child's cognitive development, personal adequacy, and future academic performance. These variables generally fall into two classifications, namely, stimulus variables in the environment, and reinforcement variables, and it is hypothesized that these interact so that the disadvantaged child differs from the more privileged child with respect to attitudes toward and aptitudes for school learning, and in his response to adult authority figures.

Frequent reference is made to the nonstimulating environment of the disadvantaged child. To the contrary, one might suggest that at times it may be quite stimulating. Careful study, however, should reveal that the environment of the deprived child would lack the variety and richness of that of the more privileged child, and that ordering and sequencing of those elements of the environment selected for attention by the parents of the child are more appropriate in the case of the privileged child.

In view of the greater frequency of unstable family patterns in the disadvantaged society, one could predict that the disadvantaged child would receive less reinforcement from parents and other adults and possibly more from his peers, or through self reinforcement. One would also come to the conclusion that the disadvantaged child would receive a higher proportion of concrete and social, nonverbal reinforcement such as pats, slaps, gestures and facial expressions rather than verbal reinforcement as contrasted with the privileged child. It could also be hypothesized that the adult response to the disadvantaged child frequently would be directed toward inhibiting behavior, while the privileged child would probably receive recognition for exploratory kinds of behaviors. It has been shown that highly specific verbal reinforcement such as "right" and "correct" is more effective in facilitating learning with middle class children while such terms as "You're good," "You're a nice boy," and "fine" are more effective with disadvantaged children. The last two variables discussed above might well explain the greater frequency of evidence of an internalized standard of excellence in favor of the middle class child.

With regard to attitudes toward achievement, we find that the typical middle class child is motivated to achieve and specifically to achieve in school work. He has learned to delay gratification and is able to work for more distant goals in favor of immediate goals. The middle class child also finds that the kinds of activities and materials in which he has learned to take an interest are compatible with the activities and materials found in the school environment. By contrast, the culturally deprived child does not possess the same internal standard of excellence and, as such, is not motivated to achieve in the sense in which McClellan used the term. This is particularly true with respect to academic performance since this is an area that is little valued in the home. In his culture, persistent needs of the moment take precedence over the more distant needs, and thus he has not developed the characteristic of persistence toward a future goal. In general, the activities of the school do not challenge the interest of the disadvantaged child; they have little to offer in the satisfaction of his immediate need.

There are also major differences in aptitudes for achievement which may be attributed to the child's living in a culturally disadvantaged environment. Numerous studies have shown that children from culturally deprived environments are retarded in language development. This seems to be related to the amount of language interaction between parents and children both by general oral communication and by reading to children. The children from disadvantaged environments also show retardation in the area of perceptual development as evidenced by their low performance on tasks which demand discriminations, comparisons and the use of symbols. In terms of conceptual development, the privileged child is more proficient in the use of abstract language categories particularly the ability to develop formal classes of objects, while the disadvantaged child will take a more concretistic approach which then leads him into increasing difficulty as he progresses through the grades of the elementary school.

There is also some evidence to support the hypothesis that while disadvantaged children frequently are more aggressive in their relationships with their peers, their attitudes towards authority figures seem to be more passive than is the case with the more privileged child. This might well cause the child to interact less with his environment in the presence of authority figures which would be an additional factor in his lowered school performance.

Table 1

Layout of General Research Design

Treatments	T_1 Three Summer Schools	T_2 Two Summer Schools	T_3 Murfrees. controls	T_4 Out of town controls
First Winter	(Criterion development, curriculum planning, general tooling up)			
First Summer 1962	Pretest Summer School Posttest	Pretest Posttest	Pretest Posttest	Pretest Posttest
Second Winter 1962-63	Home Visitor Contacts			
Second Summer 1963	Pretest Summer School Posttest	Pretest Summer School Posttest	Pretest Posttest	Pretest Posttest
Third Winter 1963-64	Home Visitor Contacts	Home Visitor Contacts		
Third Summer 1964	Pretest Summer School Posttest	Pretest Summer School Posttest	Pretest Posttest	Pretest Posttest
Fourth Winter 1964-65	Home Visitor Contacts Followup Tests	Home Visitor Contacts Followup Tests	Followup Tests	Followup Tests
Fifth Winter	Followup Tests	Followup Tests	Followup Tests	Followup Tests

With this theoretical orientation as a point of departure, a design was formulated to study the problem. First, it was decided to work with Negro disadvantaged children, because this provided the largest sample readily available to the school system and, also, generally represented the more extreme cases of deprivation. A census was made of the Negro homes in the city, and over sixty children from the more deprived homes, born in 1958, were selected as subjects. This meant the children could serve as subjects by the summer of 1962, and all would probably enter school in the fall of 1964. A survey was made of a similar community approximately fifty miles from Murfreesboro to select children to serve as the distal control group. The experimental design is indicated in Table 1.

All children were tested in May 1962 with the Stanford Binet, the Peabody Picture Vocabulary Test, and several other measures. The children in Murfreesboro were then randomly assigned to three groups. The group labeled T_1 (22 children) was selected as the group to receive three summer school sessions, while the group labeled T_2 (20 children) was selected for two summer school sessions. T_3 (20 children) is the Murfreesboro control group, and T_4 (27 children) is the distal control group.

In the summer of 1962, the first ten week preschool session was conducted with the T_1 children, ages ranging from 3-6 to 4-6. An excellent primary teacher was employed to serve as coordinating teacher, and to conduct the whole group sessions. Working under her were four small group teachers, who were college students at various levels of training. They were responsible for the instruction of the children in groups of five or six. The codirectors and the research associate, an advanced graduate school psychology student, were present most of the time and assisted and supervised the other teachers. The staff selected demonstration interest and aptitude for working with children, and also gave evidence of being achievement oriented, hence they served as excellent role models. The staff was integrated, approximately equated on the basis of race and sex.

The children were in attendance from 9:00 a.m. to 1:00 p.m. Upon arrival at the school, and shortly before departure in the afternoon, the children met as a group and were led by the coordinating teacher with the assistance of the small group teachers. During the rest of the day, the children worked in the small groups with the small group teachers. The children were assigned to groups on the basis of their estimated level of cognitive functioning. Early in the program, the learning tasks were varied frequently, and the children moved from one activity center in the building to another. However, as the children's interest span increased, the periods were lengthened. The usual length was about one-half hour.

One of the first tasks for the teachers was to establish themselves as reinforcing individuals. At first the reinforcement was direct and concrete. The smallest effort on the part of the child indicating achievement motivation or the appropriate response to a task was immediately reinforced. It was found that M and M's served this purpose very effectively, and all staff members had an adequate supply readily available. The reward with M and M's was also paired with verbal reinforcement and social reinforcement, such as caressing, pattings, etc. Gradually, verbal reinforcement replaced the other two methods, after it was shown that this was adequate for the child.

The day's activities were carefully planned by the small group teachers in cooperation with and under the direction of the coordinating teachers. The variables that were identified for emphases were achievement motivation, persistence toward a goal, ability to delay gratification, interest in school type activities, identification with achieving role models, language development, perceptual development, concept formation, and social and personal development.

All the tasks that the teacher utilized with the children in were carefully studied for possibilities for various emphases. For example, simple wheel toys first were used primarily for release of motor activity and to provide an experience with which most of the children were familiar. Later they were used in language development, as children were encouraged to ask others to share the toys with them; in perceptual and conceptual development by having children refer to them by color, size, etc.; and in achievement motivation by having the children to compete in races with each other and with themselves against a stop watch. By introducing traffic signs and lights, an additional dimension was added to the use of these toys.

The children were exposed to a large number of stories. For the small groups, sets of appropriate dime store variety books were provided, and each child was asked to follow the pictures as the teacher read the stories. This, it was hoped, would help in language development and also foster an interest in books and stories. When appropriate, discussions involved such variables as color, size, relational words, etc. Some of the books also provided for the introduction of texture because a felt like material was used throughout the book. After the stories were very familiar to the children, they were asked to dramatize the stories through role playing, and, in some instances, they were utilized in puppetry. In each instance, the major emphasis was upon language productivity.

The graded difficulty type of puzzles of the Sifo variety were used extensively. These were used for discrimination training, primarily spatial; however, they also frequently involved color and, in some instances, sequencing.

Art and art type materials were used extensively. At the early stages, these were used primarily for motor development and identifying colors.

At the younger ages, we used coloring books extensively, much to the displeasure of visiting nursery school teachers. We, however, found that many of them provided simple pictures of the everyday experiences of the children, hence, we could utilize them for labeling, evoking language, and establishing a proper color representation between the pictures and the child's environment. As the children's motor coordination improved, and adequate color concepts were developed, the art activities were used more and more for free expression. Asking the children to tell about their drawings emphasized language development. The children were frequently asked to draw about their school experiences, and this facilitated language productivity.

Cubical blocks of varying sizes, density, colors, and color combinations were used to develop concepts of size, color, space, relative weights, number concepts, and pattern reproductions -- both two dimensional and three dimensional. Many other materials and activities were utilized, but time does not permit us to treat them in detail.

The children were taken on various field trips, both inside and outside the community. The anticipated activities and experiences were first discussed with the children, and they were encouraged to look for important elements. The small group teachers were also well prepared to help the children to get involved on the cognitive level with the important elements of these experiences. For example, a trip to a super market stressed among other things the differentiation and classification of various objects, something, which incidentally, can be demonstrated very effectively in a super market.

In the summers of 1963 and 1964, both the T_1 and T_2 children participated in the ten weeks summer session. For this, the teaching staff was doubled, and the two groups were treated as separate and intact units. A careful check was maintained by the small group teachers and the coordinating teachers on each child's progress, and the experiences were carefully programed to his needs. Any specific weaknesses, with respect to cognitive functioning, were identified and experiences were constantly selected from the surroundings and activities to strengthen these. As the children made progress, the activities tended to reflect a higher level of performance and cognitive functioning. Through the entire program (covering three summers), the activities were carefully checked to utilize every possibility to emphasize the specific variables identified for emphasis in this project.

Another important part of the project was the home visitor program. A well qualified primary teacher, with extensive training in sociology, made weekly visits to the homes during the year between the summer activities. She provided the parents with books and magazines -- for example, Ebony -- and encouraged the parents to read to the children and to discuss the pictures in the books and magazines with the children. She also suggested activities that the parents and children could engage in jointly, such as a study of freezing and melting of water in winter, collecting seeds and leaves in the fall, observing plants' growth and flowering in the spring, trips to the local library, post office, etc. The home visitor also provided materials so the children and parents could work cooperatively on simple creative arts. The children were then asked to tell the home visitor about the activities, and a special point was made to compliment the child and parents for their efforts.

One of the major emphasis of the home visitor program was to help the parent to become more effective in helping the child relate in a cognitive way with the environment. It also served the purpose of helping the parent to understand and possibly adopt some of the attitudinal and motivational changes we were trying to foster in the children, thus lessening the impact of the training against cultural values which, in a sense, we were doing.

Although the final test, the academic performance of the children throughout the elementary school years, is yet to come, it would be well to look at some of the data thus far. Figure 1 shows the performance of the children on the Stanford Binet through the summer of 1964. Using this as a measure of cognitive functioning, we can conclude to this point the progressive retardation, characteristic of disadvantaged children, and demonstrated by the control groups, has, through the summer of 1964, been arrested for the experimental groups, and, in all likelihood, not only arrested but possibly reversed. Whether there is a lasting effect after the children have all been subjected to a common school environment will need to be answered later. The results on the Peabody Picture Vocabulary Test (Figure 2) and the Illinois Test of Psycholinguistic Abilities (Figure 3) show improved language development.

On other measures, such as the Wechsler Intelligence Scale for Children, administered in May 1964, the Gates and the Metropolitin Reading Readiness Tests, and nonstandardized measures of school readiness, differences that proved statistically significant were consistently in favor of the experimental groups over the control groups.

Summarizing briefly, an intensive effort to provide for increased cognitive and motivational functioning, as proposed by and carried out in the Murfreesboro project, shows encouraging signs of being quite successful. However, in view of the past history of the disappearance of many of the effects of somewhat similar efforts in the past, final judgment must be held in abeyance until the time factor can be considered.

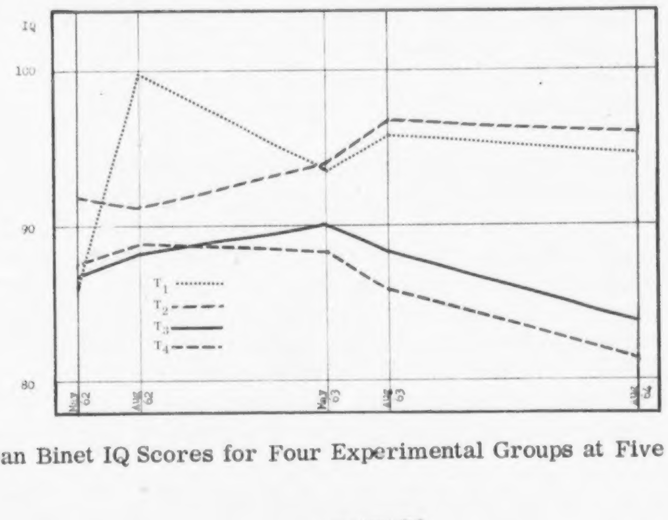

Figure 1. Mean Binet IQ Scores for Four Experimental Groups at Five Binet Test Periods

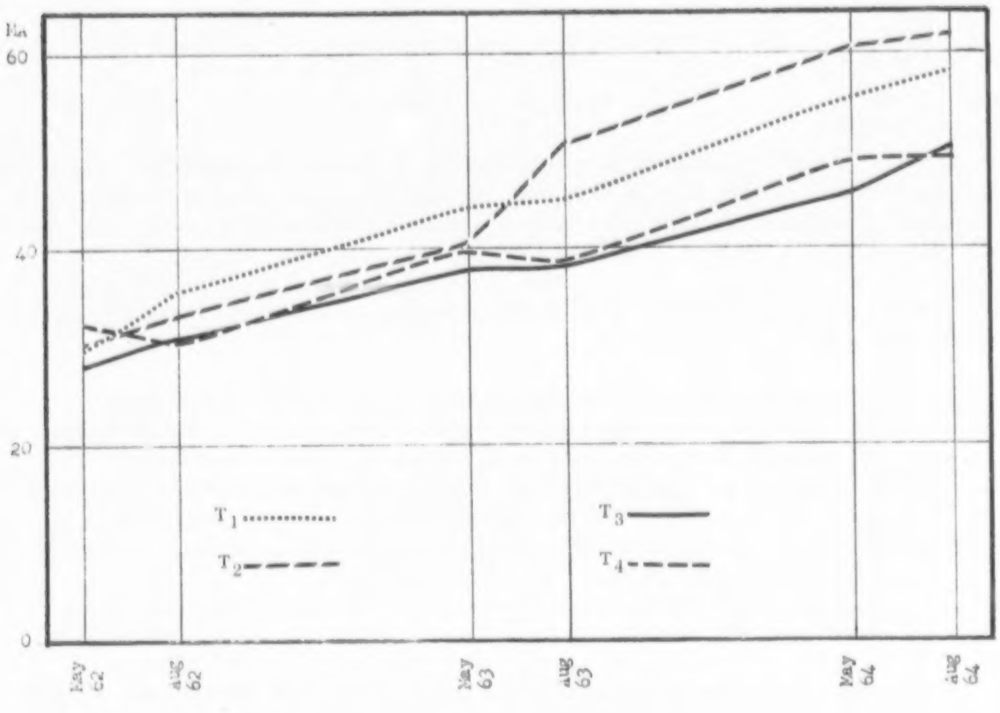

Figure 2. Mean Peabody Picture Vocabulary Test Scores (in months) for the Four Experimental Groups at the Six PPVT Testing Periods.

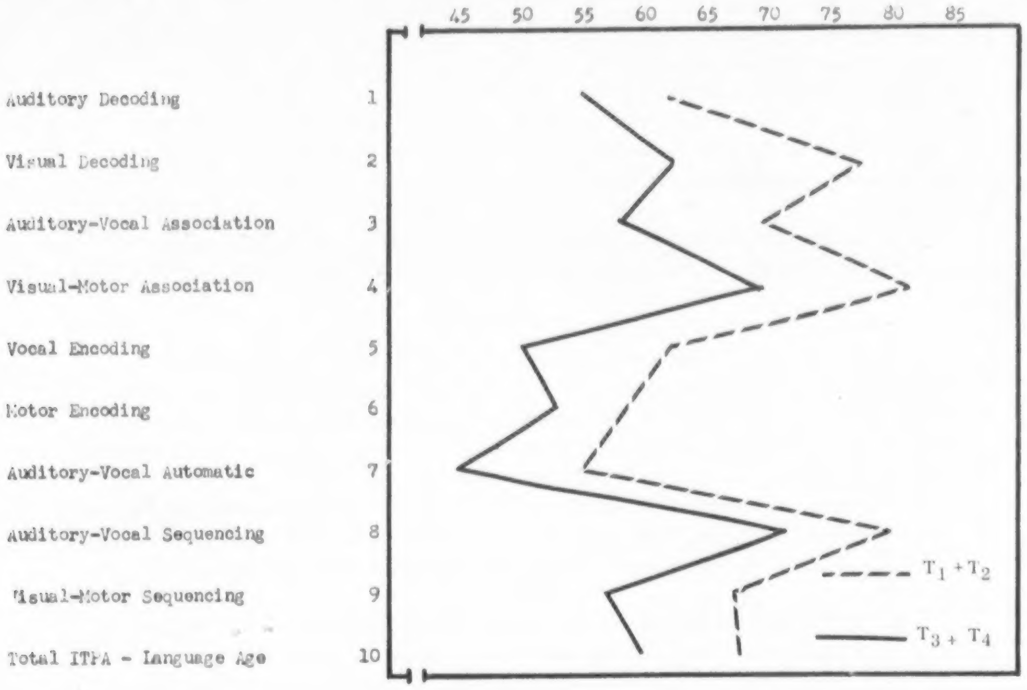

Figure 3. Mean Illinois Test of Psycholinguistic Abilities Language Age (in months) Scores for Combined Training and Control Groups.

TEACHER EDUCATION

REVIEW OF RECENT SIGNIFICANT RESEARCH IN TEACHER EDUCATION

William R. Carriker

When I initially agreed to present this paper, I thought I would be able to select a few studies in the field, review them briefly and have my paper ready for presentation. How naive! My review of recent research in teacher education in the areas of exceptionality revealed, in my opinion, something considerably less than progress.

This opinion was reached by formulating judgments based on five questions adopted from Michael (1963):

1. Which of the studies reviewed seemed to be critically significant?
2. What new and promising areas of research concerned with problems of teacher education in the various areas of exceptionality have been opened?
3. What significant contributions to a theoretical conceptualization of problem areas in exceptional children teacher education have been proposed?
4. What new and promising methodological approaches to research concerning teacher education in various areas of exceptionality?
5. What appears to be the future trend in research for teacher education in the areas of exceptionality?

The answers to these probably depend largely on how a person defines research in this area. However, if high expectations are made, e.g., studies that are novel and imaginative in nature; studies that are related to a theoretical framework from which testable hypothesis can be deduced and studies in which the design and treatments are both sound and sophisticated, then it can be said that little significant research in this area has been accomplished.

I am not saying that status studies in which demographic and other descriptive data are gathered, enumerated, and analyzed do not constitute one type of research. They do serve to answer questions of immediate concern and provide a basis for prediction of trends. I am saying, however, that research related to a theoretical framework probably will be more likely to contain the findings necessary for significant development in the education of teachers of exceptional children.

The area of special education does not stand alone in relation to this criticism. Cyphert (1964, p. 1) stated in his summary report of a conference on research in teacher education:

> Pre-eminent among the problems with which teacher education today is fraught is its apparent inability to provide for its own systematic improvement. Concomitantly, the extant research in teacher education is neither extensive nor profound. Existing teacher education research has had only a minimal impact upon teacher preparation curricula. Teacher education content and method have been generated almost exclusively on logical ground without explicit empirical reference to a clear definition of criterion behavior and has been neither empirically validated nor refuted.
>
> An additional contention is that research and teacher education has been narrowly conceived and defined so as to exclude from study perhaps the most important elements of the education of teachers. Much of the educational research which might have implications for restructuring teacher education is not integrated with the literature of teacher education.

> Many would contend that teacher education research has been approached in the main in an unimaginative fashion and with no communicable conceptual frame of reference.

A perusal of the February 1963 and October 1963 issues of the Review of Exceptional Research dealing with the education of exceptional children and teacher personnel respectively, resulted in no references to research in teacher education in special education.

Cain (1964) indicated that only a small amount of basic research in the field of teacher education has been accomplished during the past decade. He suggested some major items that need to be examined via basic research and provided a basic rationale for them.

Cain's example of the study conducted by the US Office of Education by Mackie, Dunn, and Cain in 1960 on the qualifications and preparation of teachers of exceptional children is worth noting. It has ". . . . primarily given us status data about teacher education, has defined competencies of teachers as teachers, and others see what these competencies. . . . " ought to be. Obviously this type of research is valuable. However it should be recognized, this is only an opinion study. We are now beyond this stage. We need to make the next step forward.

Blatt (1964, p. 339) seems to agree with my contention as well, in that he questions how carefully we have looked at the preparation of teachers in relation to their pedagogy. He feels that, ". . . . teacher preparation is an unstudied problem because our efforts to study it have centered about one or another position; we have attempted to examine teacher preparation in the light of our bias and insights rather than in the ways these programs constitute a relevant and adequate preparation for those activities a teacher engages in and those problems he encounters."

In a recent article (by Sparks, Blackman, 1965, p. 245-246), a more specific notation of the problem was made.

> A survey of the literature to determine whether the special teacher's approach to the special child actually differs from the regular teacher's approach to the normal child, did not unearth a single study comparing the two teaching procedures on any dimension.
>
> A review of the literature to determine the basic sequence of courses leading to certification as a teacher of educable mentally retarded children reveals no validation studies nor any claims for teaching the mentally retarded.
>
> On the basis of existing evidence it is only possible to conclude that the special education teacher has superior qualifications to teach exceptional children to the degree that the consensus of intelligent and experienced special educators is accepted. Empirical proof of the validity of special preparation does not exist.

In summary they stated:

> Proof must be forthcoming that there is more special about special education than the children assigned to these classes. If the null hypothesis relating to the differences between regular and special classes cannot be rejected, then the field of special education, represented primarily by its teacher trainers and administrators, will be required to do some serious soul-searching.

Now, having remarked rather critically about previous research on teacher education and having reviewed briefly the criticisms which have been leveled against research on teacher education in our field, I would like to propose briefly what, to me, would offer a possibility of providing at least one breakthrough in relation to some factual information about teacher education.

Over two years ago there was a conference held at Hot Springs which concerned itself with standards for the preparation and certification of teachers of the mentally retarded. This conference was held in order to develop guidelines which would be of assistance to teacher education institutions and various organizations that are concerned with the improvement of standards, preparation and accreditation of teachers for mentally retarded pupils (Heber 1963). Heber indicated in his article that it was hoped that the statement which evolved from this conference would be of help.

What I am questioning is this: Has anyone gone beyond the assumption stage that the recommendations which were made would make a difference; has anyone really evaluated this beyond the opinion stage?

It is rather common throughout the nation at the undergraduate level in the education of teachers of mentally retarded pupils to take somewhat of a backseat to elementary and secondary education. Is it possible that this has somewhat of a deleterious effect upon teacher quality and effectiveness within classes for the mentally retarded? We assume that the methods to use in teaching mentally retarded children are different than with normal children. However we teach future special education teachers one way and then say, "Now forget what you learned previously and do it this way." In recalling some of the findings from various learning theorists, it seems to me that certain types of skills or competencies which have been learned in relation to teaching methods in elementary education would have to be extinguished before effective methods can be provided for classes for retarded children.

Therefore, I propose that an institution or institutions establish an experimental teacher education program designed for teachers of the mentally retarded at the baccalaureate level. The undergraduate program could be based on the recommended curriculum as suggested by the members of the conference at Hot Springs. It appears to me that it would be necessary to follow the experimental group for a period of at least three years and compare with them the control group of individuals who have majored in elementary education with their electives and the so called emphasis in the education of mentally retarded children.

This does not sound very startling; however, no one has done it. Secondly, when we compare efficacy we have been looking at the product only. It appears to me that when we examine the effectiveness of the teacher and in turn make inferences about teacher education, we need to look at other criteria as well as pupil achievement and social behavior. As suggested by Medley and Mitzel (1963), we need to examine carefully the interaction between the student and the teacher and identify the aspects of this phenomena which appear to illicit the behavioral changes we want. There are ways of doing this--ways which are objective and appear to be valid and reliable, at least as reported by Medley and Mitzel. I am referring to the Handbook of Research on Teaching edited by N. L. Gage and published by Rand McNally. It seems to me this reference alone provides a series of models and suggestions which can be used to evaluate objectively the effectiveness of the teacher in the classroom. If these various competencies can be identified, then prospective special education teachers can acquire these skills through a series of appropriate experiences in the teacher education program.

What I have been discussing seems to be quite global. However, there is a trend nationally looking into the problem of effectiveness of teaching with an attempt to separate the teaching act from the learning act for purposes of analysis. This is in evidence in Medley and Mitzel's contribution to the handbook. However, special education departments, colleges and universities, continue to prepare teachers on the assumption that special preparation will result in special teaching. This is highly questionable. As indicated by

Sparks and Blackman (1965), ". . . . it may be appropriate to attempt a more analytical approach in order to look more closely at fewer variables, instead of involving the entire teaching-learning process, detailed study of specific segments of the class complex could yield important results. One of the aspects worth consideration is the behavior of the teacher in clearly delineated areas as it relates to her pedagogical training." This is an example of what I would propose that we look at as we evaluate the effectiveness of the teacher education program.

The problem I have mentioned is only one example of research in teacher education. I sincerely believe, however, that we have marched up the primrose trail far enough in relation to evaluating the efficacy of special versus the regular class. We must change our present attitude and practice of trying to justify no significant differences and in turn rationalizing about our teacher education programs in an effort to justify our opinions.

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WHERE AND HOW ARE TEACHERS OF THE GIFTED TRAINED? THE NATIONAL PICTURE

Joseph L. French

I have been quite interested in the preparation of teachers of gifted children for the past ten years. In the summer of 1959, a committee from the Division of School Psychologists of the American Psychological Association requested information pertaining to courses for teachers of gifted children from deans in all institutions of higher education who had listed such a course through the 1957-1958 academic catalogue. Thirty-six usable replies were received. A summary of the course outlines and objectives from those institutions was printed in the Journal of Teacher Education (March, 1961) along with a list of responding institutions and the instructor of the course or courses.

Last summer, the program chairman of The Association of the Gifted asked me to develop a program describing our current status in the preparation of teachers of the gifted. Hastily, a questionnaire was prepared to send to instructors of courses in operation during the summer and I was blessed with a return of 95 percent of the forms. I will try to summarize that questionnaire for you, and in doing so present the big picture of teacher training.

Two sources of summer offerings for teachers of gifted children can be found each year. They appear in the spring issue of the Gifted Child Quarterly and in the March issue of the Exceptional Child. Although there is some overlap between the lists, a number of institutions can be found on one list which are not included on the other. Apparently the questionnaires which provided the summer listings were mailed to, or at least filled out by different persons in the responding institutions. Eighty-three institutions were found to schedule courses about the gifted during the summer of 1964. As the year passed, it has come to my attention that several institutions offered coursework during the summer of 1964, but did not respond to either of the spring surveys. Further, a number of institutions have inaugurated coursework pertaining to the gifted this year.

Usable questionnaires were returned from 74 professors representing 64 institutions that offered one or more courses during the summer of 1964. Responses from 15 other institutions indicated that they did not offer the course even though it was scheduled to be offered during the summer of 1964. Some offered work in previous years but not in 1964 and several planned to offer work in 1965. Of the 64 institutions offering coursework in 1964, 35 offered one course, 16 offered two courses, 9 offered three, and 4 institutions offered four or more courses. Courses were offered in Canada and Puerto Rico as well as the USA.

Of those institutions offering one course, the most popular title was some derivation of "Education of Gifted Children." The next most popular title was simply "The Gifted Child" or some derivation of "Education and/or Psychology of Gifted Children." When more than one course was offered the basic course centered around the education and/or psychology of gifted children, and the second course was either a workshop, a course in curriculum and materials, or a seminar.

When three courses were offered, the same pattern as was found in the two course sequence was found and the third course was either a practicum, an observational experience, or the utilization of a demonstration class.

The four course sequence seems to be a logical extension of the coursework cited so far in that the first course pertained to the education and/or psychology of gifted children; the second course emphasized curriculum materials; and, the third course utilized the seminar approach. The fourth course involved a practicum experience with gifted children.

Perhaps one of the most interesting findings is that the course or courses about the gifted are not relegated to summer offering only. Of the 35 institutions offering only one course, 21 offer that course within the regular academic year and in the summer session. Eleven offer the course only in the summer session, and three during the academic year only. Ten years ago, coursework pertaining to the gifted was not offered during the regular academic year except in two or three locations.

Of the 16 institutions offering two courses, 12 offered work in both the academic year and in the summer session, and four offered coursework in the summer only. Of those institutions offering three courses, seven offered work during the academic year and summer session and two offered work during the summer session only. Of those institutions offering four or more courses, each offers work throughout the entire year.

Although comparison data are not available, conversation with a few instuctors of the courses indicates that enrollment in the classes has increased during the past five years. Of the institutions offering only one course, enrollment averages 25 students per class during the academic year and 33 students per class during the summer session.

The range during the academic year is from a low of ten to a high of 60, whereas in the summer it is from a low of ten to a high of 100 with one institution reporting 80 in class and another reporting 70.

When two or more courses are offered at the same institution, the enrollment remains about the same during the regular year i.e., 25 per class but in the summer session the enrollment falls off to an average of 20 per class. During the academic year and in the summer session the range is from seven to 45. When an institution offers three or more courses, the enrollment figures remain essentially the same. Among institutions offering four or more classes, the enrollment figures are slightly lower for each course.

Who enrolls in these courses? At institutions where only one course is offered, future teachers enrolled in 21 of the 35 courses, but inservice teachers enrolled in 32 of the 35 courses. Three of the institutions did not enroll inservice personnel. Some additional classifications were available for the respondents such as counselors, administrators, parents, and others. It was noted that 19 of the courses enrolled counselors, and 25 of the courses enrolled administrators. Parents were enrolled in five of the courses, faculty members were enrolled in several courses. When more than one course was offered, most of the courses were open to teachers, counselors, and administrators with most of the courses serving inservice personnel. Fewer future teachers enroll in courses when more than one course is offered.

Many of the guidance institutes sponsored by the NDEA offer special courses pertaining to academically talented students. Enrollment in courses for counselors only was not reflected by the respondents except in the reply from Minnesota, Missouri, and Western Illinois.

Parenthetically, I should suggest that these figures may be underestimates from another source also. Last term while I was teaching the basic course with a handful of students on campus, the course was offered to 51 students in three off campus settings. Penn State's response to the questionnaire, which was completed before I arrived on campus, did not reflect the off campus enrollment figures. The questionnaire was not designed to obtain extension offerings through an oversight on my part.

In most institutions, coursework is offered through a department of/or college of education with four-fifths of the work being designated as graduate credit. About half of the respondents assumed that collegiate work for teachers of the gifted would be expanded on their campus in the near future. The expanded offerings will be directed primarily at future teachers or inservice teachers and more at the graduate level than at the undergraduate level.

Eight of the respondents reported that students could major in the area of the gifted. About twice as popular as any other major is elementary education, with majors in liberal arts, special education, and guidance being very popular. To a lesser extent, majors in school administration and psychology were reported.

When asked about the minimum qualifications for one teaching a course on the gifted, about one-half of the respondents mentioned direct experience with gifted children and about a third mentioned teaching experience. There was another category of responses which varied from "willingness to take an additional work load." to "superior intelligence," but perhaps these responses should not be placed on a continuum.

When the question was changed to request the optimum qualifications for teaching a course on the gifted, the emphasis remained on practical experience in either teaching or research with gifted children and a broad background in psychology and education. A doctoral degree was specified by 23 respondents

When the respondents were asked to suggest the areas in most need of research, many different answers were obtained. Most of the answers centered around educational opportunities with concern being expressed for the effectiveness of programs, various curricula and teaching methods. A second major area of concern centered around the identification of the gifted with frequent requests for study of the development of giftedness, the growth of intelligence through various stages, and giftedness in disadvantaged populations. Creativity was mentioned frequently in response to this question with many people concerned about identification of creative persons and programs for them. Quite a way down the value scale was interest in motivation, pressure, underachievement, adjustment, leadership, and parental problems.

The respondents were also asked about research conducted in the past 12 months at their institution. Thirty-five indicated that research had not been conducted. Eight reported one study. Six reported two, three reported three, and twelve reported four or more studies. Of the research conducted, 28 projects were reported as equivalent to a masters degree thesis, 26 were reported to be equivalent of a doctoral dissertation and 20 were reported as equivalent to a project larger than a doctoral dissertation.

In addition the respondents were asked to provide a list of the important objectives for each course, a topic outline and the learning experiences or teaching techniques which have been most helpful. Response to this question was too infrequent to compare with the summary completed five years ago. However, it can be said that the use of case studies prepared by students enrolled in the basic course and supervised experiences with small groups of children for those in all courses has been found helpful.

The most disappointing response was that to the question asking for a definition of "gifted." Perhaps if you ask a stupid question some people will try to top you with their answer, but a little more uniformity in answers was expected. In the table which follows, you will find the 74 answers with very little editing provided. You may not judge the definitions to be creative but you will agree that they are diverse.

Definition of Giftedness		Frequency
No Response		11
Reference to definition by Paul Witty		11
An extended verbal definition		7
In terms of IQ		23
Binet of 150 or above	1	
140 and include creativity, arts, etc.	3	
140 on two or more tests and evidence of superior common sense	1	
135 plus leadership, creativity and one or more outstanding traits	1	
130 (132) and above or upper two to three percent	9	
and special talents included also or two GP	1	
above placement	1	
120 on individual or group test	2	
plus high achievement, talent, creativity	1	
115-120	1	
and/or creativity, motivation	2	
Two SD's on any measure of intellectual ability		1
One and one-half SD's on individual test and superior achievement		1
One or more SD above normality in any special talent		2
Above average as measured by test		1
Superior central nervous system		1
Exceptionally talented ala Portland		1
Lucito's		3
Freehill's		1

Potential for outstanding achievement	1
Ability to excel in scholastics not by test	1
In classes for gifted	1
Endowed with high general intelligence and creative ability	1
Capable of proceeding at a rate faster than majority	1
High level perpetuator, creative, evaluator, and/or leader	1
Academically superior or with special talent	1
Two levels: 1st order gifted or very superior 2nd order gifted or very superior with emphasis on cognitive excellence	1
Capable of functioning at least 1 grade level above their chronological peers	1
Questionmark	1
Hasn't this been done hundreds of times	1

At this point I feel compelled to go beyond the survey and make a few brief statements about defining giftedness and placement of children in special programs. Let me start by saying that of the definitions given I prefer those of Lucito and Newland. But then, I preferred them before the survey was undertaken. Lucito defines the gifted in general terms and Newland is operationally oriented.

> Lucito, Leonard J. (University of Southern Florida) Students whose potential intellectual powers are at such a high ideational level in both productive and evaluative thinking that it can be reasonably assumed they could be the future problem solvers, innovators, and evaluators of the culture if adequate educational experiences are provided.
>
> Spencer, Elizabeth (Ball State Teachers College) (Based on Newland) Gifted children are those children who by virtue of objectively ascertained learning potential (with or without demonstrated superior competence) can be deemed capable of making contributions to society at levels comparable in difficulty and significance to the technological level or above.

Statements of this type are preferable to IQ cutoffs for several reasons, but the key reason is the latitude the statements allow the professional educator. From experience and for simplicity I prefer a Binet IQ of 130 or the upper two to three percent of the population in an intellectual talent. I feel that a child with an IQ of 130 in a school with a median IQ of 123 is in much less need of a special program than a child with a Binet IQ of 120 in a school with a median IQ of 93. While the first child may well be gifted, it is typical that general curricular modifications will be adequate for him, but when a child's IQ deviates more than 25 points from the average, it is very difficult to meet his needs for interacting throughout the day with a teacher or his intellectual peers.

Many fine programs have been developed for youth with IQs of 120 and above. Currently I am working with high school dropouts with an IQ of 110 and above. Further, an IQ or a percentage "cutoff point" suggests that all children above that point should be included in a specific program. It is my belief that the cutoff should be low enough to insure inclusion of children who can benefit from the program but that numerous children with IQs of that magnitude will not profit from the program. Such a condition results from personality factors of both the teachers and the child, from errors of measurement, etc. Time should be taken to review the characteristics of each child nominated with the possibilities for him. This review facilitates both educational placement and educational planning.

> Carlson, Ruth (California State College at Hayward) Intellectually gifted children are those children who possess more intellectual potential than the average population sample as measured by the best instrument available. Creativity

is not measured but should be. Gifted in this and other areas should be called talent.

Gallagher, James (University of Illinois) Students whose abilities are so superior to the average that they need special educational facilities to attain their educational potential.

Harshman, Hardwick (University of North Carolina) The common denominator for gifted, bright or talented is found in the student's capacity for superior achievement and superior service. Talented would probably be located in the non-academic area and possess an unusual ability and could profit from advanced instruction. Bright and gifted are those who can profit from a college education with the latter going on to graduate or professional schools.

Jenson, Maybel (LaSierra College, Riverside, California) One who possesses a superior central nervous system characterized by the potential to perform tasks and understand abstractions. Giftedness is dynamic in nature, a continuous unfolding process.

Lucito, Leonard J. (University of Southern Florida) Students whose potential intellectual powers are at such a high ideational level in both productive and evaluative thinking that it can be reasonably assumed they could be the future problem solvers, innovators, and evaluators of the culture if adequate educational experiences are provided.

Sonders, M.W. (Kansas State at Emporia) A person who deviates enough in ability beyond average children so that he needs additional opportunities in order to progress as much as he is able.

Spencer, Elizabeth (Ball State Teachers College) (Based on Newland) Gifted children are those children who by virtue of objectively ascertained learning potential (with or without demonstrated superior competence) can be deemed capable of making contributions to society at levels comparable in difficulty and significance to the technological level or above.

Witty, Paul (Northwestern University) One whose performance is consistently remarkable in any potential valuable area of human activity.

CONCEPTS OF TEACHER PROFICIENCY FROM A SUPERVISOR'S PERSPECTIVE

Hilda Jones

Any concept of teacher proficiency seems to hinge around a superhuman being who has the intelligence to teach all children academic skills with efficiency and dispatch, the personality to reach every child, parent, administrator, fellow teacher and man on the street; and the wisdom to understand, comprehend and solve the problems of our society. I suspect that this paper will be as idealistic as the foregoing passage.

I have divided the subject into 3 sections: (a) Personal and educational qualifications of Special Class teachers. (b) The supervisor's role as it relates to these qualifications, and (c) Kinds of Experiences and Training which provides for increased competencies.

There will be some overlapping on these areas, but each will be treated from the standpoint of supervision.

Personal characteristics of a teacher are undoubtedly one of the most important items to consider in the employment of a teacher, but it is one of the most difficult to measure and assess prior to employment. The following are traits which I would consider essential to the total program as well as for the teacher's own well being.

Personal security and self-respect are very important for a special class teacher who may be continually asked why he chose this particular aspect of education. There is also a professional security which is part of a teacher's self-respect. This comes from being able to give adequate work performance which merits recognition without a continual defense of the job. It's the kind of feeling which brings satisfaction to the teacher without flag waving and emotional verbalization.

And, it's the kind of behavior which sets an example for the children, who may indeed pattern their habits after their teacher. Firmness and structure which are very necessary and needed, can then be set up and the child's own self-respect developed. This type of satisfaction and dignity will generally spread to parents and fellow associates.

Maintaining a teacher's security and pride rests to a large degree with the school system. If teachers are carefully selected and placed in special education only if they merit such placement, then the entire staff is enhanced. Each member of that staff then is pleased to be associated with the department. This carries over to the individual's own self-concept and well being.

Warmth and understanding, I believe, are a must in every special class situation. However, techniques of sympathy and maternal devotion will not prepare the child for a society which expects him to perform in an objective manner. The balance between academic expectation and understanding of handicap may be difficult to achieve, but we must recognize that the teacher's job is to prepare the child to the level of his ability. This must involve challenge, and they may experience some disappointment.

Professional understanding and behavior is quite different from the old martyr concept that anyone who works with the handicapped does so only because of love for the less fortunate and the belief that one can solve all of the problems of emotional expression and attachment. This is not to say that the special class teacher should be void of all feeling. Certainly he should be as human as anyone, with as satisfying a personal life as possible and a professional attitude which complements it.

Moving slightly from the personal attributes, let us look for a moment at the educational side of a teacher and classroom management.

The educational training aspects bring about confusion as to which courses are most important. From the standpoint of a supervisor, the following professional study areas would seem advisable:

1. A broad basic understanding of the overall educational program. Each teacher needs to know how his program relates to the total structure of a school system and the personnel attached thereto.
2. A high degree of competence in the field of special education. First, some understanding of the entire field, and then specific training in the area of his specialty.
3. Instruction is needed in testing and test results. I am not proposing that the special teacher become a psychologist, but I do feel that some understanding of testing is mandatory if he is able to comprehend and apply the results of the testing.

Courses in educational psychology directly related to counseling and guidance would be very helpful, with specific vocational training courses at the secondary level.

I am sure we all know individuals who may have completed such a course and still could not manage a classroom. There are some innate characteristics which are difficult to evaluate or teach, but, nevertheless, contribute to the success of the program. I will mention only a few.

The ability to organize is essential. This includes organization of students, curriculum and materials. This does not mean a static routine, but rather the ability to see the elements involved and work them into a manageable situation. This requires flexibility on the part of the teacher for constant adjustment and restructuring are necessary.

Teachers of exceptional children generally may need to be more self-reliant than the regular teachers. Often the class he teaches is the only one of its kind in a building. The principal may not have sufficient background to give assistance in instruction, and there may not be a supervisor directly responsible for the program. Or the supervisor of special education may have jurisdiction of such a large area that constant assistance to an individual teacher would be difficult.

The need to develop materials specifically designed for the student's individual needs would also require initiative and creativity on the part of the teacher.

A sense of humor is a safety valve in any occupation but plays a particular role in work with the handicapped. Knowing how to laugh is an endowment; knowing when to laugh, an art; and when not to laugh, a necessity. Nonetheless, cheerfulness changes the atmosphere of the classroom and reflects on each person therein.

A few remarks now, relative to the supervisor's role as it relates to these teacher qualifications:

It is obvious that we as supervisors develop certain notions as to what a teacher should or should not be. While we will always form certain opinions, it seems to me that we should keep a few principles in mind.

We are the first to admit that all children differ, yet we do not always function under the same principle that all teachers differ. John A. Bartky has worded it in this way:

> It is trite to comment that children differ psychologically. Yet it is not always adequately emphasized that as children grow into adults environmental pressures and organic changes often tend to exaggerate these psychological differences. Teachers differ tremendously in their perceptions, intelligence, and emotions, and supervision must modify its approach to meet these differences. The supervisor keys his teaching to the intelligence level of the teacher being taught. He does not approach the teacher who is emotionally disturbed by a classroom visit in the same way he approaches the teacher who is not frightened by his presence in her room. And the supervisor who assumes that all teachers are psychologically so constituted that they can administer any methodology or curriculum effectively is doomed to disillusionment.

On the basis of this, it would seem that the supervisor has a major responsibility in becoming aware of teacher differences in much the same way as she would expect the teacher to understand student differences.

If we can respect the uniqueness of the teacher, with some understanding, we should be able to develop a rapport; the importance of which cannot be overemphasized. Good rapport makes two way communication possible. This begins with the employment of the teacher. Just as a child needs structure, so does a teacher need to know what is expected. This should be set forth in an honest appraisal of the situation when the teacher is employed. If changes or modification are necessary, then they should be discussed with the teacher so that he does not have to operate under the uncertainty of "what is going to happen next?"

This does not imply a moli-coddling approach. Rather, a straight forward analysis of the situation should be given. Granted, some administrative decisions must be made, which may not always appeal to the teacher. Again, if communication is intact, the problem can generally be solved with mutual agreement.

Certain conditions and time of day will also affect the behavior of a teacher. To drop in, unexpected, five minutes before the teacher is scheduled to go home, and expect to be welcomed with open arms for a two hour consultation is just poor reasoning. It is also poor reasoning to assume that all teachers will require the same kind of service from the supervisor. Sometimes the teacher may need help with a particular unit of study. At another time he may want to discuss the behavior of a student, and occasionally he may have reached the end of his patience and just needs a sounding board for blowing off steam without fear of judgment.

A supervisor should be astute to the particular needs at a particular time and make some attempt to offer service. The supervisor, in this way, plays a major role in the proficiency of the teacher.

The discussion of the kinds of experience and training which provides increased competencies will be brief since it has been previously covered.

Cooperation between school district and universities can give consistency to all levels of training. By all levels, I am referring to high school seniors, college students, and graduates. Certain experiences in each of these divisions will provide more proficiency on the part of the teacher and may also serve as a recruitment program. As an example, the "Exploratory Teaching Program" currently being studied by the TEP's Commission can be adapted to the special education program. Here the senior high school student, who is interested in teaching as a career, is placed for a few hours a week in a classroom situation. This is sometimes worked through the Future Teachers of America Organization.

Student teaching and observation provides an expansion of this as the student proceeds with college preparation. Wherever experience can be provided to realistically acquaint the prospective teacher with school routine, I believe that person will be better equipped to enter the classroom.

Dr. Louis Fliegler gave the opening address at this convention for the local administrators. His remarks were directed toward the role of the university and local districts in the training of teachers. He presented many valuable points and I would suggest that you get a copy of this address if it is available.

Advanced university courses and inservice training are continually needed and should be designed to meet the needs of a particular situation.

With the tremendous number of research studies being conducted throughout the country, inservice training sessions should be set up to keep local staff aware of these findings.

New methods should certainly be tried but only after teachers are properly oriented. Continual exploration of ways of recording and reporting behavior is needed. And a well informed teacher can certainly more adequately interpret her program.

Inservice training can be the means of making this kind of information available to the local staff.

In summary, the success of a special education program rests to a large degree on the proficiency of its teaching staff. This proficiency is influenced by personal and educational qualifications of the teacher, the role played by the supervisor of the program, and the merited respect of regular educators and the public in general.

AN INSERVICE PROGRAM FOR TEACHERS THROUGH PRESCRIPTIVE TEACHING

Laurence J. Peter

The story is well known of a teacher, Anne Sullivan, who went to Alabama many years ago and established communication with the mind of a blind and deaf child, Helen Keller. Those of us who work in schools are familiar with less well known examples of teachers who have accomplished outstanding results with children experiencing a wide range of difficulties. We have seen the seriously handicapped child, when given a skilled teacher with an effective approach, make significant progress. Teachers working with hostile, withdrawn, or insecure children have helped them find appropriate activities, acceptable expression of feelings, and opportunities to learn their real strengths and adequacies. Children from extremely deprived social situations, or with severe physical or emotional disabilities have learned to overcome these or their handicapped consequences.

It is evident that teachers who have appropriate intuitions about children can be highly effective in a remedial program. A teacher who is sensitive to the child's special needs and who has the requisite teaching skills can provide a beneficial program. The teacher who has developed superior understanding of the child in the educative process can be wise in making decisions regarding the educational therapy provided. How do teachers acquire these intuitions, sensitivities, understandings and skills? Most of the attempts to improve or increase these qualities have met with quite limited success. Let us look for a moment at these attempts to improve quality of teaching for handicapped or disadvantaged children.

Teacher training institutions provide a number of courses in educational psychology, child development, and mental health. The relationship between proficiency in or grades achieved in these courses and improved ability in working with children has never been reliably established. It is not unusual to find teachers of outstanding competence working with handicapped and disturbed children who have not had the benefit of these courses and conversely many teachers who have had these courses show a lack of the desirable personal qualities, insights, and understandings. Later we shall examine some of the reasons for the ineffectiveness of such courses.

Another solution is to provide practicing teachers with various kinds of consultants. In most communities the child can be referred to a variety of diagnostic and treatment resources, such as hospitals, mental hygiene and child guidance clinics, social agencies and other services. The advent of psychological evaluation, the refinement of medical diagnostic techniques, and the social welfare and rehabilitation movement have all contributed to our understanding of the individual child. As a result, the interdisciplinary team concept has become the ideal of consultation. As schools have become more aware of ancillary services, children are referred with increasing frequency. These services are essentially roads away from education and into other fields. A child presenting problems is referred by the teacher to the school administration, then to the school counselor, the school psychologist, school social worker, school nurse, child guidance clinic, social agency, or psychiatric clinic. The resources vary, but the movement is always out or away from the classroom. The road back, so that medical, psychological and social work diagnoses are implemented in the classroom has been frequently missing. What is the reason for difficulty in establishing a useful relationship between the interdisciplinary diagnosis and teaching?

How does one acquire understanding and comprehension? Educators believe, and extensive research and experience supports, that didactic methods are comparatively ineffective means for facilitating understanding. Telling a person about a principle or generalization, no matter how eloquent the telling is, does not necessarily communicate the skill and attitude required for effective implementation of a principle or generalization.

A psychiatric social worker explained to a teacher that a disturbed child in a clinical setting had, after being abusive toward the worker broken windows in the building. The worker explained that this showed the severity of the child's disturbance. He also suggested that this behavior was necessary and desirable as it was a release of the child's hostility. Although appropriate to the worker's frame of reference, to the teacher this was unacceptable. The teacher could not accept that the child's abuse of persons in authority or the destruction of public property was desirable. The specifics dealing with appropriate means of expression for the child would have been more useful.

To the therapist, the child's expression of hostility and anxiety may be regarded as cathartic, but to the teacher the same behavior may seem to be reinforced. Both ideas may be valid. The child expressing hostility and anxiety in the clinic, perceived by the child as a treatment situation, may be releasing his negative emotions. The child expressing these same feelings in school, which he perceives as a learning situation, to a teacher, who he perceives as an authority person, may be reinforcing his hostility and anxiety.

It is not uncommon to find advocates of psychoanalytic, permissive, and structured approaches, each claiming that their theory is the right one because, when their particular approach is consistently applied, positive results occur. On the basis of experience, observation, and the examples above, the teacher can form his own generalization which might include the importance of consistency of approach in working with disturbed children. He might be much less concerned about which approach is right and be more concerned with the consistency of approach because a fluctuating approach will reinforce the child's insecurity.

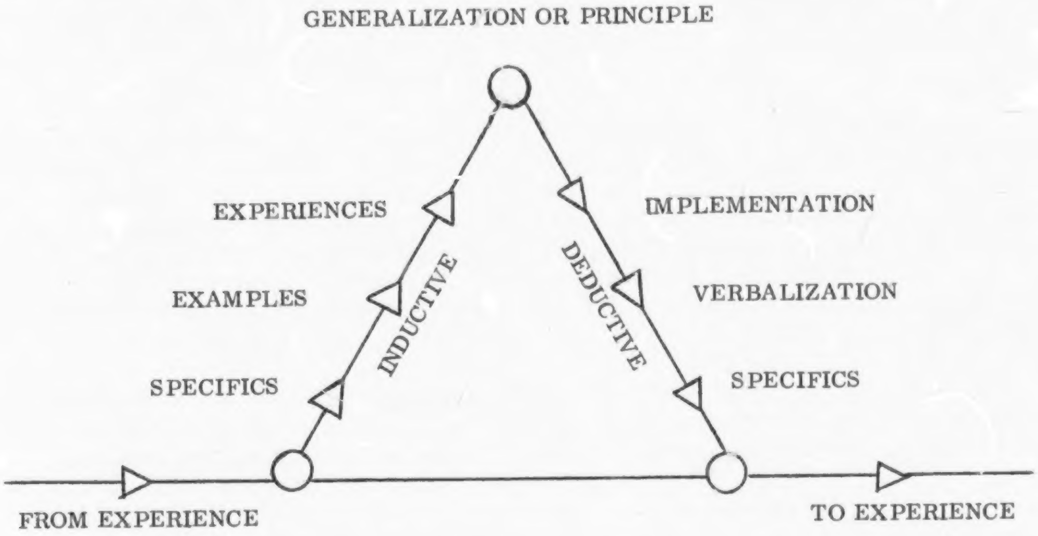
Communication from other professions to teaching is impeded by another aspect of the didactic methods employed by consultants who attempt to convince by stressing the importance of their own principles or beliefs. It might be assumed that experimental facts, which can be repeatedly tested and checked, would take precedence over broader and vaguer psychological speculation. This is usually not the case. Various elaborate personality theories which are important to the particular consultants involved are advanced as explanations for the behavior under study. The cause of contemporary behavior abnormalities is usually explained in terms of personality deviation resulting from past experiences. The teacher may find himself primarily interested in present behavior and the environmental modifications which facilitate more complete functioning of the child. He may even show a lack of interest in the experts' arguments about which factors were important in the irreversible past. The teacher may find it more consistent with his function to be concerned more with contemporary solutions than with etiologies.

Another problem involved in communication of principles and generalizations about children to teachers is that it has never been reliably established that generalizations appropriate for psychologists, psychiatrists, and social workers are appropriate for teachers. In other words, even if it were possible for the generalizations of the learning theorist, personality theoritst, and case worker to be adequately communicated to and adopted by the teacher, the question still remains, "Would he be a better teacher?" It is probable that the teacher needs his own generalizations and understandings appropriate to his own particular function just as the other professions need their theoretical frameworks and principles upon which to base their practices.

How are meaningful and useful generalizations developed? In education it has been found that teaching the principle before the student has had appropriate experience upon which to generalize is not only ineffective but also detrimental. The teaching of the deductive process before the inductive process can result in ritualistic behavior and verbalizations which do not reflect internalization or understanding.

The full potential of courses and consultation has not been realized. They have avoided the inductive process through assuming that the process is unnecessary, by assuming that it has occurred or by assuming that the generalizations developed by the clinical professions are appropriate for teachers. As a result, the proliferation of courses and consultants may not further the development of teacher insight. Programs providing structure in which inductive process is fostered will have a much higher probability of success.

Educators have known for some time the effective means for providing development of understanding of their students at all levels and it appears that the same means are effective in facilitating teacher understanding. This is illustrated in the diagram of inductive-deductive process.



The learner must have ample experiences, facts and examples from which to induce the generalizing principles underlying the specifics he experiences. As he induces these generalizations they influence future experience. As principles take form they can be implemented through the deductive process in moving from the general to the specific.

A generalization becomes meaningful after successful experience, completion, or closure. It is then that the explanation of the consultant can form a meaningful integration.

Too often it is assumed that the teacher's experience has provided a basis for inducing appropriate generalizations. Whereas in practice it is common to have the teacher admit that everything tried with this child fails to produce desirable results. On the basis of this kind of experience the teacher is not ready to induce or internalize effective generalizations. An inservice program based on consultation is more appropriately based on directing the teacher to specifics, facts, and examples, rather than to principles and theoretical frameworks. Without experiences with successful solutions to learning problems of handicapped children the teacher is not ready to improve insight, intuition, and understanding.

The pretraining of teachers is even more vulnerable to this defect. Much is dependent on a teacher-pupil relationship, but teacher training and practice teaching seldom provide opportunities for this. Child development becomes meaningful when the teacher's understanding of a child grows through a relationship existing over an extended period of time. Many teachers have not worked through their own attitudinal problems which block implementation of principles of child psychology and learning to which they think they are committed at the time they receive their credentials. Teachers need an opportunity for the kind of systematic consultation which is characteristic of the clinical professions. In the pretraining course work in colleges of education as presently constituted this would be a difficult task.

In the inservice aspects of consultation a program based on sound educational practices involving the inductive-deductive process can be implemented. A program which facilitates therapeutic education through increased teacher understanding and competence provides the teacher with appropriate specifics and examples and contributes to the inductive process. A program developed by the author which meets these criteria is called Prescriptive Teaching.

Prescriptive Teaching is an approach to educational therapy which deals with the means of achieving sound educational goals for disturbed or handicapped children. It employs educational means to accomplish therapeutic aims. It achieves this through employment of interdisciplinary diagnosis which is translated into educational implementation. The educational relevance of the handicap determines the appropriate modifications of the specifics of the educational program. Criteria for remediation are established so that the teacher will be aware of the effectiveness of the educational modifications.

By providing these educational specifics, based upon the individual diagnosis, the teacher has increased opportunity to induce principles appropriate to his educational function.

The Prescriptive Teaching program is based upon a circuit which provides feedback to the teacher which reinforces or supports those intuitions and understandings which are related to successful remediation of the child's problems.

By providing the teacher with the educational specifics and by providing the feedback mechanism whereby reinforcing consequences become attached to effective applications, the Prescriptive Teaching program facilitates development of desirable teacher characteristics. Appropriate understandings, generalizations and intuition are reinforced.

By providing a rationale and methodology based upon the educationally sound inductive-deductive process, Prescriptive Teaching (Peter, 1965) resolves many problems related to educational implementation and affords a positive ongoing inservice program.

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BEHAVIORAL DISORDERS

BEHAVIOR CLASSIFICATION OF EMOTIONALLY DISTURBED CHILDREN

Dan Davis
Rue L. Cromwell

This paper deals with an approach to the diagnostic classification of emotionally disturbed children. The paper has three purposes. First, it presents a philosophy of diagnosis and behavior classification. Second, it illustrates a methodology for research in diagnosis and behavior classification. Third, it describes the problems to be overcome if research in this area is to be successful.

Philosophy of Diagnosis

What is a scientific construct? If there is anything to distinguish scientific constructs from other constructs in our lay language, it is the requirement of definition, at least some aspects of which must be reduced to observables and, second, the designation of at least some function or utility which the construct serves in prediction, control, or explanation of events.

Among our scientific constructs, what is a diagnostic construct? It is proposed that a diagnostic construct is simply a scientific construct which has a specialized definitional structure and a specialized utility. Specifically, it is defined in terms of presently assessable conditions and antecedent conditions in the organism. It has the special purpose of predicting what kind of treatment, if any, will lead to what level of prognosis.

As can be seen from this definition, one is instantly faced with four classes of data: etiological, presently assessable, therapeutic, and prognostic variables. Thus, the term "behavior classification" becomes a misnomer. The presently assessable behavior is only one of the classes of data involved in the building of diagnostic constructs.

Today, unlike 50 years ago, we have the tools of correlation, factor analysis, and mathematical rotation at our disposal to examine interrelationships and to identify interrelated clusters of variables. Today, unlike 10 years ago, we have computer analysis to accomplish a task of correlational and factor analysis which would have been baffling to the imagination previously. On the other hand, today we have the problems of understanding and interpreting the print-out data from our computers. One wonders whether our conceptual talents have kept up with our electronic genius. How often do we produce an artifact in diagnostic construction by choosing measures or items which are closely interrelated or overlapping to begin with? How often do we extract a mathematical factor and fail to give it a name which will make its control relevant in a useful way?

The faith of the present project is that these problems will be overcome by an examination of interrelationships which cut across different classes of data. By intercorrelating the etiological-historical, the behavioral, the treatment, and the prognostic measures, one may, briefly stated, open the way to identifying clusters of relationships which hold their shape in terms of clarity and utility criterion. That is, our diagnostic categories may tell us how behavior relates to previous antecedent conditions in the experience of the child, what treatment is most appropriate when such a circumstance occurs, and what the outcome will be. If this can happen, the diagnostic construct has met its purpose.

How does one go about research on such a problem? It is assumed here in the case of emotionally disturbed children that the sound and reliable assessment of behavioral data is the core problem. Some opinions oppose this, I know. For example, one can argue that a central underlying pathological process is the fault and that the variety of disturbed behavior arises only as a function of secondary personality and situational variables. One has to stake his assumptions somewhere, and have it assumed that the nature of the emotionally disturbed child's behavior has relevance to how he got that way and what should be done with him.

Second, the historical data is deemed as relevant. How did the parents rear the child? What were their role values imposed on him, consciously or unconsciously? Again, one can argue that conditions such as autism have no relevance to parent handling, that parents are unfairly indicted. This may be true, but one has to start somewhere. To raise the question, hopefully, can bring the reward of answering it more definitely.

Third, the treatment variables remain an unexplored area. Residential vs. special class treatment? Limits setting vs. permissiveness? Superego and morality building vs. simple love and acceptance? Emphasis on educational remediation vs. capitalizing on the stronger talents of the child? Play therapy vs. tutoring? Where are the relevant dimensions? One can only observe, quantify, and hope the treatment procedure chosen has some relevance to the matrix of diagnostic construction.

Fourth, the prognosis, or followup, variables carry the final payload in determining whether the diagnostic categories are useful in predicting differential improvement. Here, again, the measurement problem is formidable. During a so called followup period, after an emotional disturbance has been identified, one wants to find out whether the child got better. When does one look? Where does one look? How often does one look? These questions spell the difference between a sound and reliable followup assessment and an inadequate and unreliable one. Behavior is variable--especially, it seems, with emotionally disturbed children. On one occasion he may seem greatly improved. On the next day he may have lost his emotional control, stolen a bicycle, and run away from home. Or, he may be doing consistently well in his relationship with his family but is rejected and an outcast in the classroom. Should one have a simple index of outcome? Or, should there be multiple indices? Whatever the answer, the fluctuation in behavior must be resolved before reliable measures can be developed.

With this conceptual approach and overview of the four relevant classes of data, let us now turn to an illustration of how the central data, the behavior of the child, might be measured. What I wish to describe here is the development of the rating/ranking scale of child behavior in our project.

What kind of technique should be used? How should it be developed? Who should use it? When faced with the task of developing such a research instrument, one can only hope that one has made the right decisions so that one can assess the most relevant behavior in the most reliable way.

In our case, we chose a 123-item rating scale technique. Concrete and specific behavior samples were rejected because of the feeling they were too narrow in generality. Other techniques were rejected because they were too global.

The next decision was that each scale should have the ratings of a number of children rather than one. This procedure forced a comparison among the children and presumably is one of the factors responsible for maintaining high reliability. Thus, the instrument is referred to as a rating/ranking scale, since the data may be treated as ratings or rankings, depending upon which is more meaningful and useful.

The next decision was that the raters should only be people who had had continuous contact with the groups of children in their living situation, such as teacher-counselors, nurses, ward technicians, etc. Although each person was asked to rate the child as he had behaved during the past three weeks, each rater was required to have had a contact of at least the past six weeks experience with each child in order to participate in the rating.

The next step was to develop the items of the scale. Here it was assumed that no person could point to relevant behavior without being subject to his own biases and the biases of his professional group. Thus, items were sought and composed from multiple sources. The principal investigator, a research clinical psychologist, observed the classroom, play, and bedtime behavior of the children. These behavior observations were translated into items, teachers and teacher-counselors made up items. Nurses and attendants made up items. Items were drawn from relevant personality theory. Items were drawn from research literature by other investigators of emotional disturbance (especially Dreger, 1962, and Wittenborn, Holzberg, and Simon, 1953). Items were drawn from the comments of emotionally disturbed children as they observed each other. Items were drawn from nondisturbed children who were given the opportunity to observe disturbed children.

Item phrasing and behavior coverage modifications led to a revision of the scale. Then came the item shake down. The items were then given to a broad range of teacher-counselors for suggestions, criticisms, and additions. This led to another revision. Then the total scale was given to a group of 11 teacher-counselors, six teacher-counselor trainees, five teachers, five nurses, and 13 ward technicians for rating of groups of children and for further suggestions. Four of these (one teacher-counselor, one teacher-counselor trainee, one nurse, and one psychiatric technician) were asked to complete the scale a second time one to four weeks later. From this data, test-retest intrajudge reliabilities were obtained by ranks and also by ratings for each item. The rating data yielded slightly higher correlations. The frequency distribution of the pooled intrajudge reliability coefficient had a few items with low coefficients but with the greater number of coefficients unexpectedly high.

The next step was to describe the interjudge reliability. Conventional techniques could not be used since different raters had rated small and sometimes overlapping groups of children. A simple randomized design analysis of variance technique yielded a correlation ratio as an estimate of interjudge reliability on each item. This technique allowed a comparison among raters whenever they rated the same children without requiring that every judge rate every child. This yielded a mean correlation ratio of .66, and the range was from .47 to .89.

Frequency distribution of the correlation ratios. An F test indicated that 86 items were significant at the .01 level, 17 at the .05 level, and 19 nonsignificant. It is also to be noted that Kendall's W was possible with a small group of children and judges in two different institutions. For Project Re-Ed, three raters and eight children yielded W's from .15 to 1.00 with a mean of .56. At the Wills Center of Vanderbilt Hospital four raters and three children yielded W's from .05 to .93 with a mean of .50. It is to be noted however, that these interjudge reliability descriptions are not descriptive of the total group.

The next step was the final revision of the scale. With two interjudge reliability measures and two intrajudge reliability measures, together with written in criticisms by raters, the bottom 20 percent of the items were chosen for rejection and/or revision. Revision was made if the item content was thought to be crucial in describing emotional disturbance. The final scale as revised totaled 125 items.

Ninety children have been rated by 49 raters in Project Re-Ed, Nashville, Tennessee, Project Re-Ed, Durham, N. C., Astor Home for Children, Rhinebeck, N. Y., and Wills Center Psychiatric Ward, Vanderbilt Hospital since the scale has been in final form. The final reliability figures will soon be available. Meanwhile, development and refinement is being made of the case history variables, parent child rearing and role value variables, treatment variables, and followup variables.

Summary

A philosophical position was stated that diagnostic constructs should be defined in terms of presently assessable and historical-etiological events and should serve the purpose of predicting what treatment, if any, will lead to what level of prognosis. This methodological approach to one of the central problems of building effective diagnostic constructs in this area was illustrated; the assessment of the behavior of the emotionally disturbed child.

A unique problem arises in the assessment of the rating/ranking scale. Conventionally, to declare a scale reliable is to get similar results from the same or different respondents. This is an important point in the development of our scale, but we have another consideration: children's behavior fluctuates temporally, in different places, with different people. The point is, a behavior assessment scale must have in its scoring a variable method that not only takes into account variation in behavior but detects it when not assessed. A scale for our purpose that yields high reliability coefficients on all items is not assessing an important area of fluctuating behavior. Our focus of attention is in developing an instrument whose items can be reliably answered by the raters but, in addition, whose items detect different aspects of behavior that are fluid and therefore are assessed differently by different raters. An example of this is an emotionally disturbed child's behavior in class and in the living quarters. As a part of a social group he may be the leader, but once in the classroom he is very incompetent. The rater assessing this same child's behavior in the living area should differ from another rater's assessment in the classroom.

These types of problems within our project promises to keep us sobered and stimulated to the task of developing a meaningful behavior classification for emotionally disturbed children during the next three years.

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PATTERNS OF RESPONSIBILITY IN EUROPE: IMPLICATIONS FOR EDUCATION IN AMERICA

Paul W. Penningroth

Teachers in our schools today are discovering the problems of managing and teaching emotionally disturbed children. The phenomenon of disturbed children is not new nor is there any clearcut evidence that we are suddenly today experiencing a tidal wave of maladjusted children. What has changed is a growing awareness of the needs of the disturbed child, the challenge he presents to make effective our learning procedures, and the demands on schools as well as other social agencies to assume a greater degree of responsibility. At the same time that the schools are receiving these demands, a few of the children in the classroom are receiving help at child guidance clinics, or reside in children's institutions or foster homes and bring to the classroom their unique and different experiences.

School personnel naturally raise questions: What to do with these children? Do they really belong in the school? Who has the responsibility for the disturbed child? What can be done with him?

A variety of services have been developed which give some indications of what can be done. They include services for families, services in the schools, out-patient clinics, counseling services, residential facilities with psychiatric, or school educational emphases, remedial, tutorial or special classes, and school clinics. Are these the proper answers to our questions? What children need what service and how does the school fit in with the answer?

Two years ago, during a sabbatical semester from the Southern Regional Education Board and aided by a grant from the National Institute of Mental Health, I had the opportunity to study programs for emotionally disturbed children in a number of selected countries in Europe. The purpose of the study was to discover those practices and ideas which might be useful to the states which were in the process of initiating or expanding their programs for children. Information and insight was sought on the factors which seemed to be responsible for their successes or failures.

I wish to share with you my observations and to describe a few of the programs, particularly those related to the schools. I also want to propose a sequence in the development of services for disturbed children. The danger exists that services are often developed without adequate provision of a sound philosophical base.

My study included programs for emotionally disturbed children in England, Zurich Switzerland, Holland, Belgium, France, and Denmark. Visits were made to clinics, public schools, day schools, residential schools and homes, hospitals, counseling centers, and public health centers. Professional people were interviewed in all the settings and observations were made of the programs. Certain definite impressions and conclusions emerged.

First, let me say the programs are not the same in each of the countries named. Some have more highly developed systems of services than others. Zurich, Switzerland has specialized on special classes for disturbed children in the schools and few other services are provided. Denmark has a wide and comprehensive range of services both in and out of the school. In other countries, programs were in the process of being formulated. But in all of them there was a common approach and the basic principles seemed to be the same.

One basic difference between these countries and America stood out. We place much emphasis on research. We appropriate large sums of money to test our ideas, to study specific factors, and to analyze characteristics of the children and the various procedures used. Service seems to play a secondary role. In Europe the situation is reversed. There emphasis is placed on services and little time or money is spent on research. Evaluation of programs is generally done by observation. Judgments are made that the child is better or that he has not improved. They were satisfied with the wide range of services which provided something for each type of child. Program directors generally said, "We're on the right track" and then they would add "But we need more of the services we now have and we need more trained personnel." Although they respected our research activities and were quite familiar with the names of Redl, Lindeman, and Caplan, they indicated no desire to enter more extensively into research.

Another major difference was the emphasis on preventive activities. They accept prevention as something that can be accomplished. They work at it. In Amsterdam there are several day nurseries for children of a few months of age up to three years of age. The children come from middle class homes. Their mothers are too busy with their own social life or too preoccupied with their own problems to give to their children the proper amount of love and attention. In these nursery schools the children are given the proper atmosphere for healthy growth. They enjoy success and recognition as they learn to walk, to handle objects, to gain self-control, and to learn eating habits.

Prevention is also in the background in the nursery schools and kindergartens which employ psychologists or social workers to detect the earliest indications of deviant behavior. School physicians are also taught to look for signs of emotional distress at the time regular physical examinations are made.

Another approach to prevention is to work with the parents. Workers may help the parents provide a suitable home life for their children in the first place, and then help them provide the assistance a child needs with his problems. It is not unusual when children are in treatment to require the parents to participate in the treatment process. A psychologist working with very disturbed children in a residential school fifty miles north of Copenhagen opened her home in that city for groups of parents who could not travel to the school. This is in contrast to a new residential agency I recently heard about in America where parents are not permitted to visit the residential school nor the child to visit the parents for the first three months after he is entered in the school.

An unusual aspect of a preventive approach was the question which was beginning to be raised in the legislative body in Denmark. The question asked was "What are the implications of this proposed legislation for mental health?"

A third characteristic which emerged was the attitude of the personnel. The directors of the programs, in the schools or elsewhere, were usually exceptional persons with imagination, vision, energy, and dedication. This often appeared to be the heart of the program. In England, a number of schools have become well known through the personality of the leader, and then have declined as the original guiding spirit was lost. Although the directors complained a great deal about the lack of training and proper orientation of their staff members, much of this was due to their tendency to be perfectionistic. Well trained or not, the staff members of most of the services appeared to be extremely devoted people who carried out their duties with warmth and willingness. The chief difficulty apparent in the staff was that of absorbing readily the nonpunitive understanding approach to children, an approach usually quite different from their own growing up experience.

Staff meetings are frequently held at all times of the day. They deal with problems they face and constitute one of the principle means of training and they provide the opportunity for the leader to share some of his concern and enthusiasm.

No program in Europe is entirely unique. Undoubtedly we could find some counterpart of every program developed there somewhere in the United States. But considering countries as a whole, more of their children will have a wide range of services available to them. They have made more extensive use of the small residential facility; the residential homes or schools where groups of from eight to 40 children live in a family-like setting. Two individuals studying to become teachers at the University of Leipzig in Belgium, met, fell in love with each other, and married. They decided to provide a residential home for boys. A wedding present of an old stone house-barn combination on four acres of land became their base of operation. The husband, a city reared boy who had never used a hammer, remodeled the barn into quite pleasant residential quarters. Here lived eight boys with this couple. They rode bicycles to the village school. They learned life from this couple.

Another example are the observation schools in Denmark. Boys and girls whose needs do not clearly emerge on the basis of teacher and psychologist study are sent to an observation colony. Here, in groups of 15 to 25, the children are under constant observation as they live and study in a country atmosphere. They build playhouses, they play games, they attend classes, they help with the farm chores, they interact with each other and the couple in charge of the school. At the end of the maximum three months of observation, many of the children have gotten a new hold on life and are returned directly to the school and home from which they came.

Much use is made of the milieu therapy with one or two trained professional staff.

The units are usually located in the country for faith is expressed on the benefits of open spaces and experiences with growing plants and animals. Warmth and the give and take of family life is simulated in a natural setting.

The basis of the services provided is the need to have children mature to become adults capable of operating at the maximum of their capacity. Several times I heard the expression that the state could not afford to have any child grow up with any preventable or curable deficit in health, education, or social well being. It was the state's responsibility to provide for the social, economic, and political well being exercised first through and by the family, and then aided by other social agencies.

Responsibility for developing programs for children was usually placed in the department of education, the department of health, or the department of welfare. Sometimes their jurisdiction overlapped with no clear definition of major responsibility. This was due in part to uncertainty and different points of view that see behavior disorders as an illness, as a problem in learning, as an aspect of cultural deprivation, as a confusion of the child's identity and relationships, or as a biological factor. We are familiar with these various points of view and the conflicts they provoke. These differences are further reflected in the terminology. Should these children be called emotionally disturbed, emotionally handicapped, unadapted, exceptional, confused, maladjusted or maladapted, suffering from behavior disorders, mentally ill, or having behavior problems.

The development of the programs has occurred in the face of many obstacles. On the surface it would appear easier for us to construct a range of services than it has been in most countries studied. Adversely effecting plans have been such factors as a smaller supply of professionally trained personnel, the relative scarcity of funds to construct facilities or to employ personnel, the tendency to continue in the traditions of decades, if not centuries, of social attitudes and customs, and the influence of religious groups. For instance, Holland is about one-third Catholic, and one-third Protestant. There is intense rivalry between these two religious groups. The government provides funds for programs which are developed by the religious groups or by nonsectarian groups. In the larger cities where the different groups live side by side, duplicate services are found. In Rotterdam in the Baan, the public health center, the Catholic group had organized a child guidance clinic. The Protestants could not let this pass so they established another child guidance clinic. Both are supported with government grants. Both are found in the same building. Both furnish a similar type of service. Our difficulties do not appear to compare in severity with problems such as those just cited.

Out of this study and observations there emerged a number of definite opinions. These I wish to present as recommendations.

1. State governments should accept a larger share of the responsibility for meeting the needs of the disturbed child. Most families do not possess the emotional or intellectual resources to cope with the disturbed child. They need help. States have departments of health, education, mental health, and welfare capable of developing children's services. Reliance on communities would result in a crazy quilt pattern with gaps and misappropriate activities. The state must help the community to develop the services, encourage local action to utilize the unique services of the community and take advantage of the interests and energies of its citizens. This is the kind of pattern which has emerged in England and Denmark. The state supplies most of the funds which are expended through the direction of local communities by their committees or councils according to state standards. It is a pattern similar to the operation of many state educational systems. It is similar to the pattern being recommended to provide mental health services of a comprehensive nature in the local community.

2. A wide range of services should be provided. Services should range from informational and supportive help for the parent and teacher to intensive treatment available

on a 24 hour basis. A single type of service such as a residential facility or a special class must not become the sole focus of interest.

Treatment may include assistance, direct or indirect, which reduces symptoms, prevents exacerbation of the disturbance, increases insight and better understanding of the self, establishes more realistic understandings of relationships to people and environment, and enables the individual to cope with the situation he faces with a greater degree of satisfaction.

No single type of service will meet the variety of disorders and depths of difficulties children have. An adequate range of services includes such specifics as counseling programs, supportive help, and information and treatment for parents. In schools, the range of services can include counseling assistance to the classroom teacher and principal, personnel services for the pupils, remedial or special classes, systematic examinations of the children, referral services to community and state agencies, clinical services, and methods of communication with the parents and the community. Outside the home and the school there may be out-patient clinical services, and special treatment and diagnostic centers, both day and residential.

3. Establishment of services should begin with preventive activities. Although we have historically provided assistance in health and welfare to those who have suffered most, logic dictates we begin with the broad and specific preventive measures. There is the story of the three psychiatrists walking on a road paralleling a river. A man was drowning and they rushed to his rescue. Barely had they saved him when another man floated down, and another, and another. After much struggle and valiant efforts, the situation improved and finally the psychiatrists had a chance to catch their breaths. Then two of them noticed the third was missing. Soon they saw him coming down the road. They accused him of running out on them, of leaving the sole responsibility to them, of being derelict in his duties. He replied he had gone up the river to see what was putting the men in the river and to stop that cause. Society has not had the hardihood to turn its back immediately on the sorely distressed and focus its attention first on prevention. I have sat in with the planning councils of several states discussing services for children. Invariably the approach is to provide psychiatric residential services first. Seldom if ever does the planning get around to providing preventive services.

In Europe, families are increasingly being turned to as the key factor in prevention and treatment. Families need information about emotional growth and development. They need resources they can turn to for information and help.

In Aarhus, Denmark domestic science workers have an effective entry to families. In our country, the accomplishments of the county agent program in agriculture, which has fostered almost too much food production, suggests a possibility. What would happen if each county had a mental health worker to give information to families, discuss family problems, advise on sources of help, and identify those factors leading to disorders? The possibility of a mental health surplus is an intriguing idea.

4. If a choice is necessary, services should first be provided for the larger number of slightly disturbed children needing help, and specialized services for the seriously disturbed should follow at a later date when funds, personnel, and more knowledge are available.

In the face of variations among the states in their state organization, in the administration of services, in the resources available, and in the services already present, there can be no set first activity. However, it can be stated that a beginning should be made of providing those services for the largest number of children (those who are normal or mildly disturbed) and then progress can be turned to the projects for the small numbers of more seriously disturbed children. It is impossible to say a particular service should precede all others. It is possible, however, to group types of services and suggest beginnings be made with some of the services in the group. For instance, in the first group are services largely preventive in nature. They either apprehend trouble before it starts or they help identify and remedy problems in their earliest stages. There are parent counseling services supplied by community-parent consultation centers, mental health centers, school personnel, or properly trained personnel in churches. Family adjustment centers could help parents or the family as a whole resolve their differences. Competent consultants should be available to the classroom teacher.

In Group II, the second order of services are intended for those children whose problems require some special help. This could be in the form of remedial type class with a specialist, transfer to another teacher or school, or special classes.

In Group III, services are designed for the child whose problems not only distract him from school work but permeate other aspects of his life at home or on the playground. There should be available mental health centers, either in the community or in the school, and out-patient psychiatric services connected with a hospital.

In Group IV, still more specialized services are indicated for children whose problems no longer respond to part time approaches and whose inability to cope with life at home or school necessitates removal. Here, a day school, a foster home, or therapeutic camp may provide the answer.

In Group V are the highly specialized services for the seriously disturbed child, fortunately fewer in number, with removal from home and school. Full time therapy with highly trained professional personnel is necessary for them. The residential school or the residential psychiatric centers may provide this service which will be much more costly and will be provided only after the services indicated in groups I through IV are provided.

5. Recognition should be given to the importance of the child caretaker's role, and a thorough study should be made of the kind and amount of training required. In Europe, relatively untrained nonprofessional workers were given major responsibility for children. They not only assumed the chores of daily care but also were vital contributors to the therapeutic milieu. Shortage of manpower in Europe as well as here necessitates the employment of nonprofessional people as educators, house parents, pedagogues, child care workers, etc. Unknown presently is the site for the training - in an educational setting or on the job, the length of the training program, the content of the training, etc. The contributions this group makes to the child's improvement is too significant to be shunted aside by the professional worker.

6. Research and experimentation should be encouraged in universities and service agencies. Too little is known of the etiology of children's disorders, the better methods of treatment, the training of workers, and the organization of services. Bold new programs must be tried if we are to find more suitable answers to the problems of meeting the needs of our emotionally disturbed children.

Summary

The countries studied in Europe offer encouragement to the United States to assume a larger measure of responsibility for disturbed children. Schools, mental health agencies, and health and welfare departments need to take a larger share of responsibility for the development of services for the emotionally disturbed child. There are activities appropriate for the teacher and other activities more suitable for an individual with a different type of specialized knowledge. Perhaps the clearest message of all is the need to begin with what we have, expand services where we can, and work together to give our children the maximum opportunity for growth to responsible adulthood.

MANAGING BEHAVIOR THROUGH LEARNING

Edith P. Popenoe

Montgomery County, Maryland, a suburb of Washington, D. C., prides itself on its excellent schools. We found, however, that we had a small percentage of children that we were not able to help in spite of the many things we tried - careful selection of teachers who could give individualized help, psychological and educational evaluations, speech therapy, remedial reading, and counseling with parents. These children were usually boys in the third, fourth, fifth and sixth grades, from eight to 12 years of age. Although they could frequently be identified in kindergarten, the crisis situation arose when they reached the third or fourth grade. Most of these boys fell at the two extremes of the behavioral continuum, being either very aggressive or very withdrawn. They were the children that were very anxiety provoking to teachers and about whom teachers would say, "Either this child goes, or I go," or about another child, "He is nothing but a vegetable. All he does is sit." All of the children were having learning problems, especially in reading, many of them being nonreaders or reading only on a first or second grade level. They were not culturally handicapped, as most of their parents were professionals who had given them every advantage that money could buy, such as tutors, the help of private specialists, camp, and other experiences. They had no apparent physical handicaps and on individual psychological tests, they were found to be average or better in ability, although they were functionally retarded. As you would expect, these boys all had very poor self-images. As they had seen parents, teachers, and specialists give up on them, they had given up on themselves. The psychologists, almost without exception, had recommended either individual or family therapy, and a few families had followed through with getting this help; many parents found it either too threatening or gave up after a short trial period when their child continued to have difficulties.

Sixteen years ago, Montgomery County thought it had the answer - play therapy. We believed that the children could not be taught until their emotional problems were solved and since we could not get parents to take the children for this help, we planned to have the school provide it. Under the direction of a psychiatrist, a psychologist, and an experienced play therapist, a class for emotionally disturbed children was set up in one of our schools. Although there were 12 year olds drinking their milk from nursing bottles and acting out their aggressions in school, the children became worse rather than better. After a year and a half, when the children were literally climbing the walls, the program was discarded. In retrospect, I believe the children were confused by a school program where very few limits were set, and where reading, writing, and arithmetic were kept to a minimum.

In the spring of 1959, we decided to try again a small group of children under a master teacher who could set limits and individualize the instruction. Also important was a principal who believed in the program. The following criteria were set up:

1. No more than 10 children in a class
2. Children with at least average ability
3. Children with severe learning problems, underachieving by two or more years
4. Children with no apparent organicity
5. Children with a prognosis for success which would enable them to go back into a regular class after one or two years in the program
6. Classes placed in regular elementary schools in different areas of the county, in order to reach children from all schools

At first we endeavored to motivate the children through accenting field trips, science projects, and television. The thinking was that if nothing else was accomplished, the teachers in the regular classrooms would be relieved of them and would do a better job with the remaining children.

We found, however, that the children rejected what we thought would motivate them.

As the program developed, we found that these factors contributed to its success: Instead of a permissive program, these children demonstrated a need for limits to be set. We learned that the more structured program made them less anxious, freeing them to learn. These were children who had hidden behind projects, often masking their learning difficulties from the teacher and their classmates. The teacher took them back to reading readiness when necessary, gave them support and encouragement, and set the stage so that it was almost impossible for them to fail. These were children who had been at the bottom of their classes academically. Here they were able to find other boys who were having similar learning problems. As they realized that they were not alone with their problems, they seemed to gain courage to tackle subjects which had been a source of humiliation and frustration. As these factors combined, they began to learn, confidence grew, frustrations diminished, and behavior improved.

These children were ready to move back into regular classes after one or two years in the program. When a followup study was made, very exciting things were found to have happened. No longer were there complaints of misbehavior. Most of the children were able to maintain themselves in their grade after leaving this class. Academic progress in the one or two years in the class was almost unbelievable (sometimes as much as four or five grades growth) as determined by pre- and posttesting by an educational diagnostician. This led to the name by which the program is now known -- "Catch-up." From the success of the first class, the Catch-up program grew to five classes last year, seven this year, and ten such classes are expected for next year. A total of 161 children have been in the program. Experience with these children has led us to hypothesize that there is a negative correlation between learning and unacceptable behavior. That is, the more a child learns, the better his behavior will be.

Our research design was to have the teachers of the seven Catch-up classes rate the behavior of their groups at the beginning and end of the year in three areas: (a) the number of symptoms exhibited at the beginning of the year, (b) the number of children exhibiting these symptoms, and (c) the impact or the stress or anxiety provoked by this behavior on the teacher. At the same time, we were to have pre- and posttesting by an outside educational diagnostician in four areas of learning: (a) reading, (b) word recognition, (c) spelling, and (d) arithmetic. In order to report on the outcome at this meeting, the children were re-rated in behavior and in learning in February (just five months after entering the class, rather than in June) although it is believed that results would have been even more dramatic at the end of the year.

In order to show what led to the hypothesis that the more a child learned the better he behaved, Figure 1 will indicate the first of the average gains made in the five classes last year in the four academic areas that were pre- and posttested.

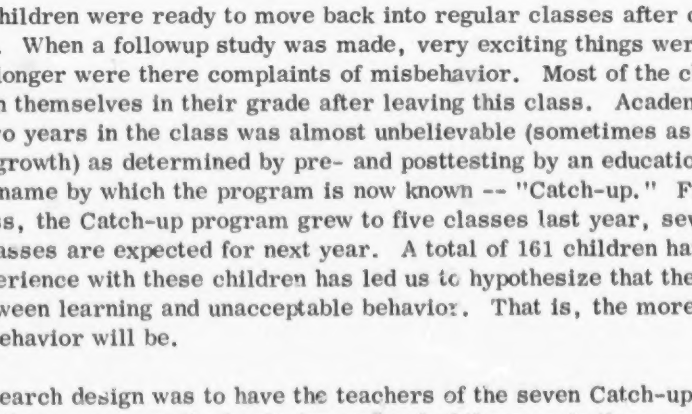


Figure 1.

The percent of gain was arrived at by taking the average score (mean) of the September tests and placing it in the denominator, and by taking the mean of the differences from September to May and placing it in the numerator.

To make 100 percent gain, a child reading at the second grade level in September would have to be reading at the fourth grade level in May. The children made less gain in arithemetic, because they scored higher in this to begin with and had less distance to go.

To give you an idea of the make-up of a typical class, of the age and IQ range, Figure 2 will show the reading achievement in one class last year, taught by our most experienced teacher.

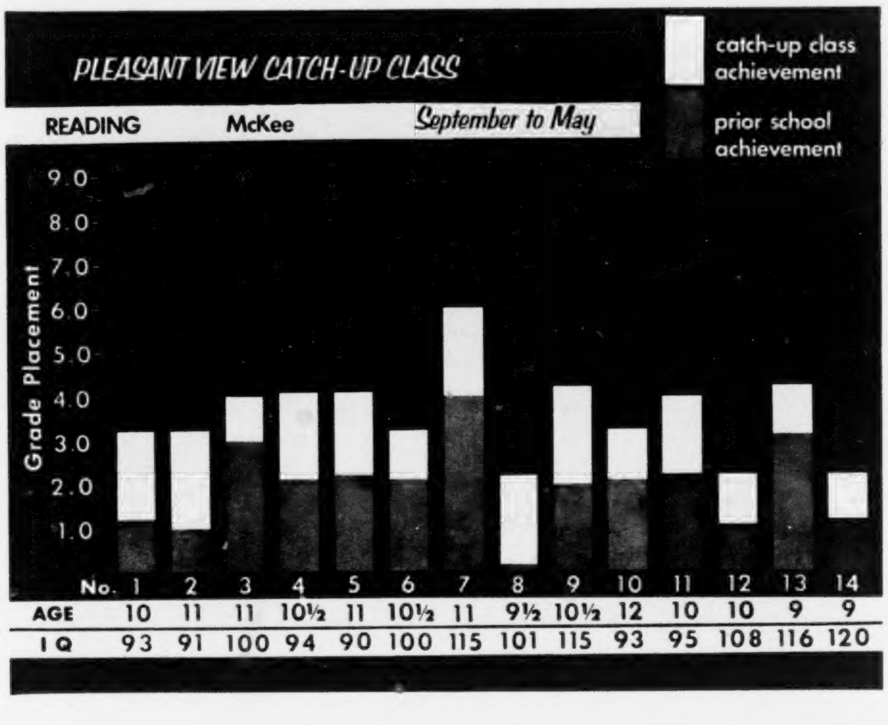


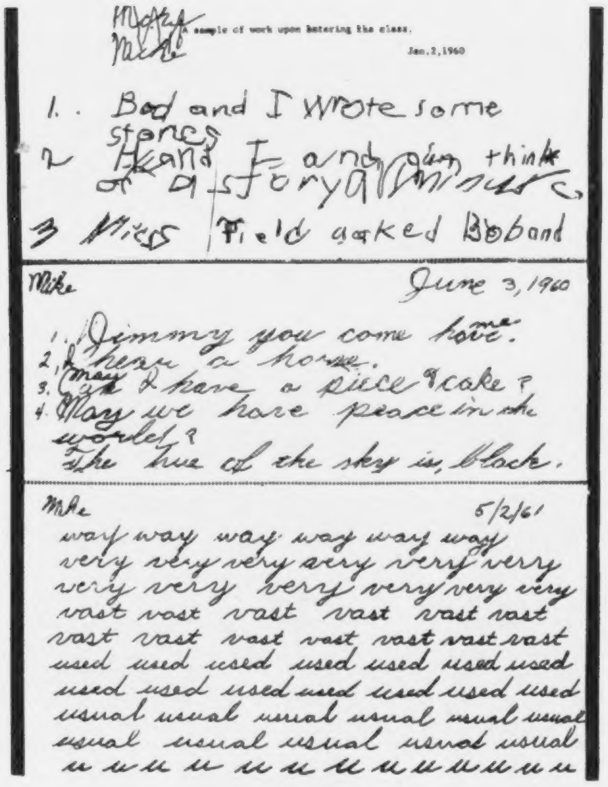
Figure 2.

The range in age in this particular class was from nine to 12 years. This is typical of all our classes. The range in IQ in this class was from 91 to 120, which is also typical.

The first ten students, with the exception of students four and eight, were carry-over students from the previous year; some of them were nonreaders when they entered this class the preceding year. Student No. 1, in the five years he had been in school, was reading on a bare first grade level when tested in September. By May, when retested, he was reading on a third grade level. Student No. 8 was a nonreader when entering this class in September. By May, he was reading on a second grade level. This growth is even more impressive when one realizes that all of these children had been in a remedial reading program before placement in the Catch-up class.

Figure 3 shows what happens to handwriting as knots begin to untie. Mike entered the class in January, 1960. Just one and one-half years later, his handwriting had improved tremendously, as can be seen.

A look at the results of the research in the seven Catch-up classes this year, and if our hypothesis holds, will show that as learning increases, behavior improves.



Mike
Mike A sample of work upon entering the class.
Jan. 2, 1960

1. Bod and I wrote some stories
2 He and I and him think of a story [illegible]
3 Miss Field asked Bob and

Mike June 3, 1960

1. Jimmy you come home.
2. I hear a horse.
3. May I have a piece & cake?
4. May we have peace in the world?
The hue of the sky is black.

Mike 5/2/61
way way way way way way
very very very very very very
very very very very very very
vast vast vast vast vast vast
vast vast vast vast vast vast vast
used used used used used used used
used used used used used used used
usual usual usual usual usual usual
usual usual usual usual usual
u u u u u u u u u u u u u u

Figure 3.

One fact should be considered and that is that only two of our seven teachers this year were experienced in working with Catch-up classes. As would be expected, the average gains in these two classes were much greater than the combined averages as shown.

To assess progress in learning, an educational diagnostician tested each child in September and again in February in reading, word recognition, spelling, and arithmetic (See Figure 4).

Academic Achievement

Reading		Word Recognition		Spelling		Arithmetic	
Sept.	Feb.	Sept.	Feb.	Sept.	Feb.	Sept.	Feb.
2.3	2.9	1.9	2.7	2.6	3.1	4.0	4.8

Figure 4

The 61 children in the seven Catch-up classes had a median IQ of 100, and a median age of ten years, six months, as of September, 1964. Upon entering the class, the children averaged second grade, third month (2.3) in reading. Five months later their average achievement was second grade, ninth month (2.9) - an average gain of eight months; in spelling, an average gain of five months; and in arithmetic, an average gain of eight months. These were children who had been standing still up until the time of entering the Catch-up classes, in spite of remedial reading, tutoring, summer school, and other help.

It would have been even more dramatic had the median or mode been used instead of the average to show academic gains. Actually, 35 of the 61 children made one or more years of growth in the reading test in this five months period, nine of them making two full years of growth.

To determine what happened to behavior, a 50-point scale, developed by Dr. Nicholas Long, Associate Director of the Hillcrest Children's Center in Washington, D.C. was used (See Figure 4a).

Behavior Evaluation

Difficulties With:	PEERS		TEACHERS		LEARNING TASKS		SCHOOL RULES		PERSONAL PROBLEMS	
	Sept.	Feb.	Sept.	Feb.	Sept.	Feb.	Sept.	Feb.	Sept.	Feb.
Behavior Symptoms	80	54	61	40	81	35	82	37	84	55
Spread	25	14	16	2	24	2	36	8	24	14
Teacher Stress	64	42	58	38	62	34	34	14	70	46

Figure 4a

This scale was divided into five areas in which the children were having difficulties - peers, teachers, learning tasks, school rules, and personal problems. Each area had ten specific items of behavior to evaluate. (a) There were ten items of difficulty in the peer area - such as physical aggression, unwillingness to share, and tattling; (b) ten items of difficulty with teachers, such as refusing to comply, interrupting, and verbal aggression; (c) ten items of difficulty with learning tasks - such as doesn't follow directions, doesn't complete assignments, tears up work; (d) ten items of difficulty with school rules, such as cheats, defaces property, and interrupts games; and (e) ten items of personal difficulty, such as steals, masturbates, and has tics. The teacher checked in September and again in February the specific items of behavior which they considered problems in their group. If all ten items were a problem to all seven teachers, the chart would show 100 percent. They next gave the percentage of children in their groups exhibiting this behavior. Then, the degree of anxiety or stress that coping with this particular behavior provoked in them was rated.

An average of 80 percent of the 61 students, as rated by the seven teachers, exhibited symptoms of behavioral difficulty in the peer area in September.

The spread measures the average percentage of children showing behavioral difficulties in each of the five areas. For example, an average of 25 percent, or one-fourth of the children, in each of the seven classes were having difficulty in the peer area in September.

Dr. Long developed a five point scale to measure teacher anxiety or stress; 0 represents no stress; 20 percent, slight stress; 40 percent, moderate stress; 60 percent, much stress; and 80 percent, extreme stress. The average of the seven Catch-up classes was 64 percent. This would suggest that the behavior of the children in the peer area caused the teachers much anxiety or stress in September.

Another way to show the negative correlation of learning to unacceptable behavior is by the line graph. The lines showing gains in achievement in the four academic areas tested remain the same for the five graphs of the problem areas. The teachers perceived 80 percent of the specific symptoms of difficulties with peers a problem to them in September, but by February, only 54 percent of the symptoms applied. One-fourth of their class, or 25 percent of the children, were exhibiting the symptoms in September, and by February this had been reduced by almost one-half to 14 percent. The anxiety or stress on the teacher was reduced from 64 to 42 percent. In the scale, it should be recalled that 80 percent was extreme stress and 0 was no stress. Notice that as the children began to learn, their behaviors began to improve (Figure 5).

In the area of difficulties with teachers, the story is almost the same, except that only two percent of the 61 children continued to have difficulty by February (Figure 6).

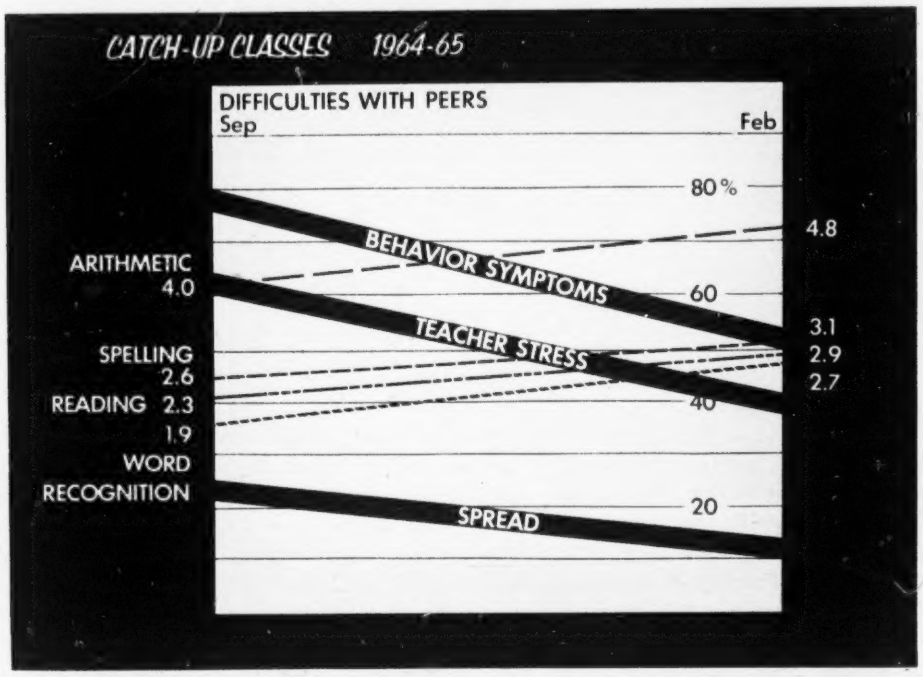


Figure 5.

In Area III, difficulties with learning, the number of symptoms exhibited was reduced more than one-half, from 81 to 35 percent, in five months time. Twenty four percent of the children were involved in September; two percent in February. Only a very few children were still having problems with learning. The anxiety produced in the teachers by this behavior was cut almost in half, from 62 to 34 percent (Figure 7).

Area IV, difficulties with school rules, shows that the symptoms were reduced by more than one-half, from 82 to 37 percent. Thirty four percent of the children were having difficulty in September and only eight percent by February. Stress on the teachers was reduced by more than one-half, from 34 percent to 14 percent (Figure 8).

Area V, personal problems, has the highest percentage of symptoms listed of any of the areas. The average of the seven classes in September was 84 percent. This was reduced to 55 percent by February. In September, 24 percent of the children in the seven classes were exhibiting symptoms of personal difficulty. By February, 14 percent of the children were still having difficulty. Problems in this area also caused the highest degree (70 percent) of teacher stress. This was reduced to 46 percent by February (Figure 9).

We feel that we have made a great deal of progress, but we still have a long way to go. Our evidence seems to support our belief that a child must have a good self-image in order to learn successfully. Through our selection of master teachers, who can accept children where they are, set limits, reinforce successes, and minimize failures, we have been able to help the children in our Catch-up classes.

Through further research, we hope to improve this program even more, and through expansion, reach many more children.

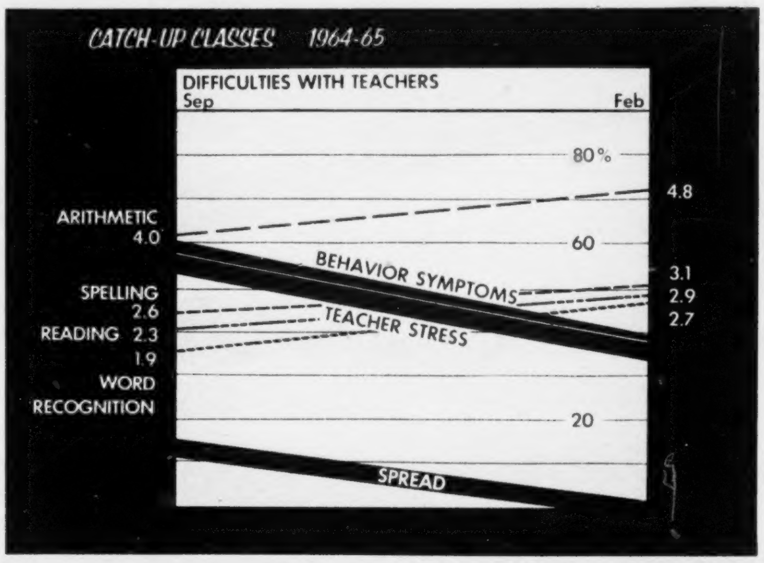


Figure 6.

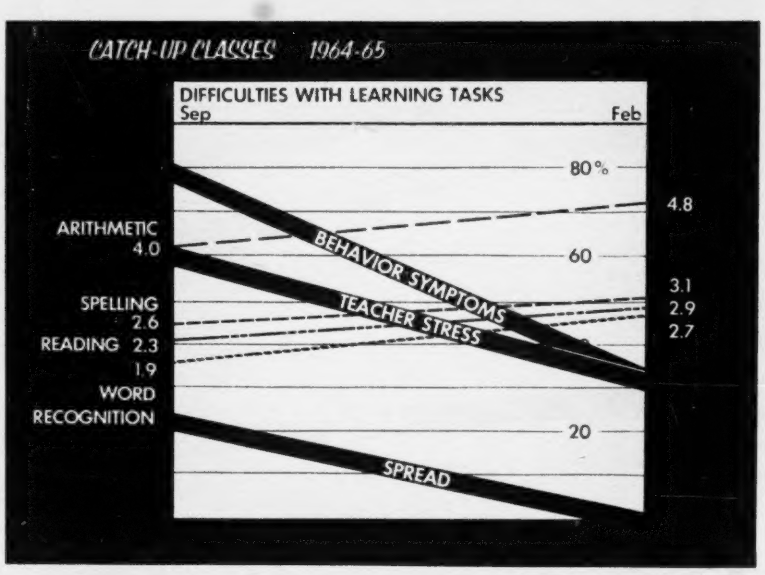


Figure 7.

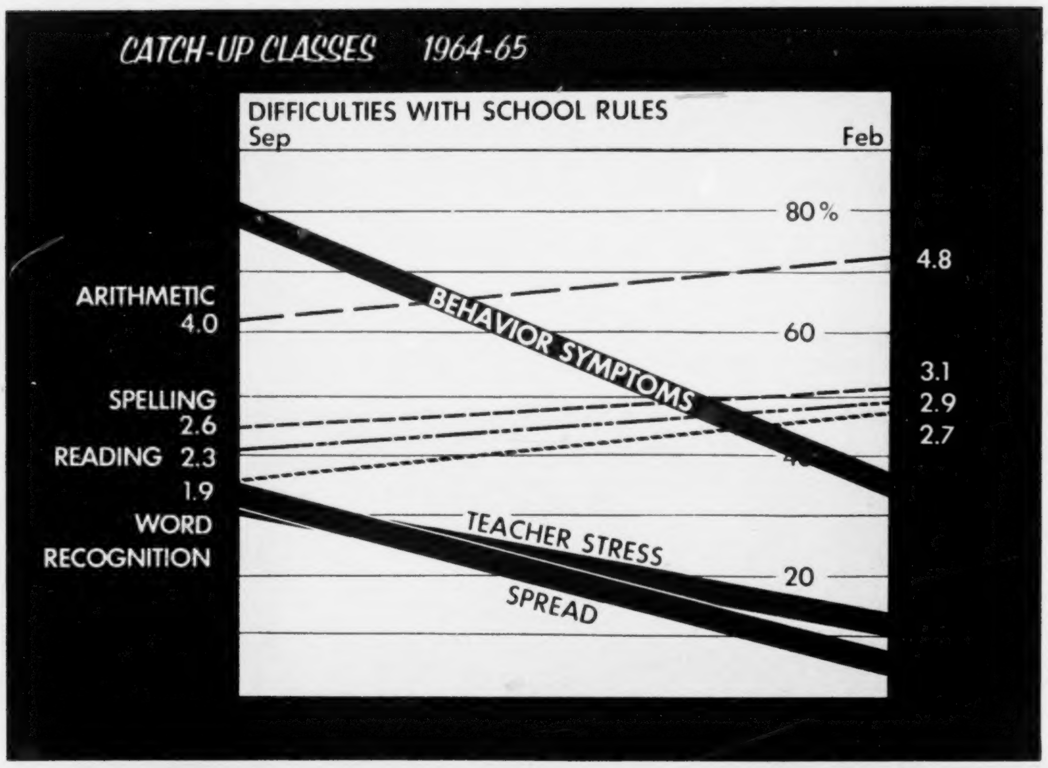


Figure 8.

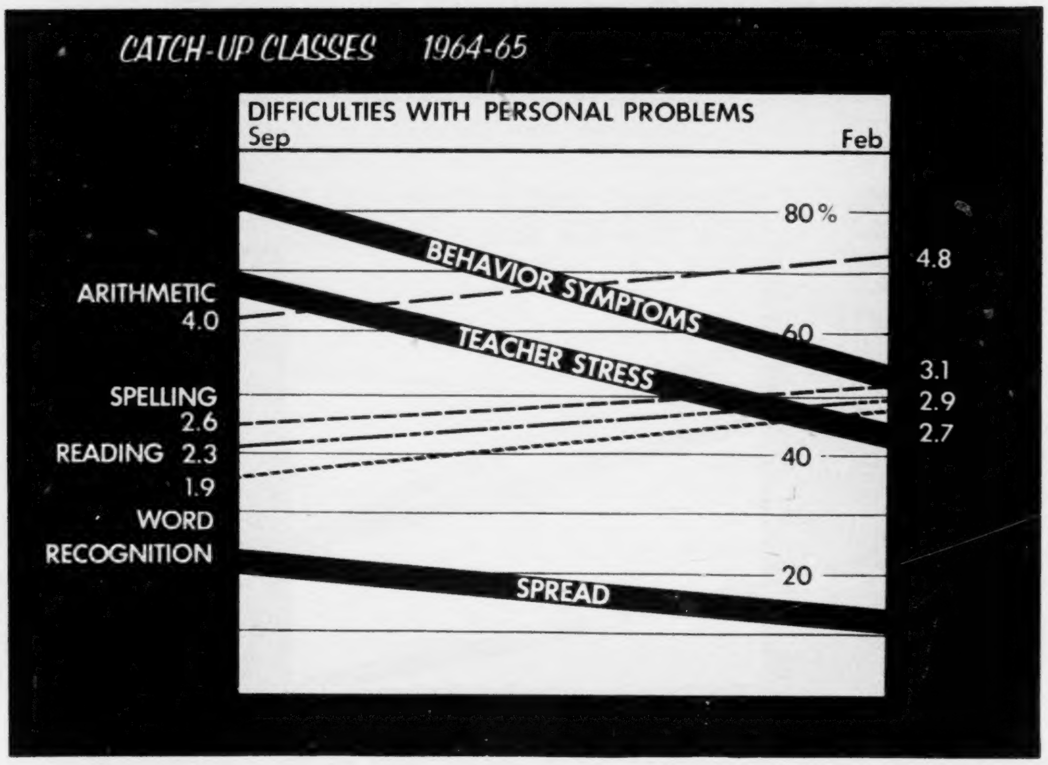


Figure 9.

REINFORCEMENT PROCEDURES AND THE MODIFICATION OF DEVIANT CHILD BEHAVIOR

Montrose Wolf

Whenever a child makes a response, he often changes some aspect of his environment. This change in his environment which he produces, this consequence which results from his behavior, will often in turn effect the way he responds in a similar situation in the future. For example, some consequences of his behavior will increase the frequency that he engages in that behavior. Other consequences will decrease the behavior's frequency and some will have no measurable effect.

Our language contains many words which describe consequences that we expect to have an effect on certain types of behavior, words such as reward and punishment, success and failure.

An aspect of psychological research has been to determine those types of behaviors which can be modified by their consequences as well as to identify the particular kinds of consequences which are indeed effective in modifying those behaviors.

A knowledge of those behaviors which are modified by their consequences and a knowledge of those consequences which are in turn effective can provide the teacher, the therapist, or the parent with a powerful set of therapeutic tools for modifying deviant child behavior.

There is an accelerating literature describing the usefulness of these tools, often called reinforcement procedures, in creating an effective technology of behavioral modification. Reinforcement procedures are currently being applied to many areas of deviant child behavior including delinquency, retardation, psychoses, and less severe emotional and behavior problems. For example, Birnbrauer, Bijou, Wolf, Kidder and Tague have used reinforcement procedures to teach academic skills to educable level retarded children who had not been progressing by way of the conventional special education techniques. Haring and Whelen have been successful in applying the principles of reinforcement to the education of emotionally disturbed children. Ferster and DeMyer, Lovaas and Wolf, Risley and Mees have generated socially appropriate behaviors in autistic children by carefully programing the consequences to their behavior. Girardeau, Spradlin, and Lend and their co-workers have increased the self-care, social, academic, and prevocational behaviors of a cottage of retarded adolescent girls by arranging the distribution of various goods and privileges as consequences for these behaviors. Myerson, Kerr, and Michael have applied reinforcement principles to problems of child physical rehabilitation. Harris, Allen, Johnson, Buell, Hart, Baer, and Wolf have used teacher attention as a reinforcing consequence in altering the mild behavior problems of normal nursery school children. Some of the major aspects of the approaches of these and other investigators to this broad range of therapeutic and educational problems can perhaps be summarized in the following manner.

1. The child's repertoire has been analyzed through observation, report, and/or testing to obtain at least three points of information: (a) A description of the behaviors which are lacking or abnormal; (b) A description of the behaviors which it would be desirable to attempt to help the child acquire; (c) A description of the behaviors which the child already has in his repertoire that most closely resemble or approximate the behavior to be taught. Such an analysis of the child's repertoire is useful whether the kind of behavior is self-care, social, academic or vocational.

2. It is also important to determine the consequences or technically, the reinforcers, that can be arranged to occur following the desired behavior. It is necessary to

produce consequences for the behavior that are more meaningful, more significant for the particular child, than have normally followed that kind of behavior. For example, the more capable institutional retardates investigators found a form of monetary system to be an effective consequence. The children were given tokens for appropriate behaviors. These tokens were exchangeable for a variety of items such as toys, drawing materials, fruit and candy, clothes, bedspreads, and privileges of various kinds.

For reinforcing academic behavior of emotionally disturbed children in public schools, Haring and Whelen have used such things as ten minutes of free play time, juice, and whatever classroom activities a child particularly enjoyed.

In the work with normal nursery school children teacher attention and affection was a powerful and effective consequence for training social, self-care and motor skills.

Many of these sophisicated reinforcers are, of course, not meaningful to severely retarded or psychotic children. For these children, food, and physical comfort, such as bodily contact have often been relied upon as consequences for modifying their severely deficient repertoires.

3. After deciding what consequences would be meaningful for the child, these reinforcing consequences can be provided for that behavior of the child which most closely approximates the behavior which is desired. In some cases, the level of the behavior which is initially reinforced bears only the remotest resemblance to the behavior that is eventually desired.

   Thus, it is necessary to present the reinforcing consequences first for a remote approximation, then for progressively greater refinements of the behavior. Of course, starting from the humblest of beginnings is not new to either the educator or the mental health worker. By subsequently presenting the reinforcing consequences for progressively greater refinements of the behavior, the appliers of reinforcement principles have been able to teach children to read, to write, to walk, to talk, to interact socially, to wear important prosthetic devices, to teach children to do things which often, with the conventional training techniques, had not been accomplished.

At the University of Arizona we have recently been interested in the problem of toilet training the retarded and emotionally disturbed. We have been working with children both in the home and in the institution.

Appropriate eliminative behavior is an important part of a child's repertoire. Without bowel and bladder control the child is usually not eligible for special education programs either in public school or in the institution. Lack of bowel and bladder control also produces an aesthetic problem which can have a detrimental effect in the child's social relations. Often in the institution appropriate toilet behavior is one of the most important criteria determining whether a child will be promoted to a higher level ward.

We have seen several children with eliminative behavior problems. They have ranged in ability from borderline normal intelligence to severely retarded. For each child things that were reportedly enjoyed by the child were systematically used as reinforcing consequences for approximations to the desired behavior. For instance, some children were first reinforced for entering the bathroom when instructed, then later for sitting on the toilet a few moments when instructed (perhaps at first with the lid down). Finally, several steps later the reinforcing consequences only followed self-initiated eliminative behavior in the toilet. Nine of the 13 children we have seen have acquired appropriate toilet behavior within a several week period. For most of these children, once the appropriate behavior was fully established under the reinforcement conditions, the consequences used to generate the behavior could be gradually eliminated and the appropriate behavior continued to be maintained by mildly aversive consequences for an accident such as mild scolding or the temporary loss of some privilege. The intrinsic consequences of appropriate toilet behavior were probably important in themselves.

The use of reinforcing consequences to generage appropriate toilet behavior did not originate from reinforcement research. Among others, the noted child psychiatrist, Leo Kanner, suggested using rewards to toilet train children, particularly retarded children. The main contribution of appliers of reinforcement procedures like Ellis, Dayan, and others has been to attempt to systematically use and evaluate these procedures. The following is a description of a toilet training case from our own experience.

Jack was a seven year old moderately retarded boy whose retardation was attributed to brain damage. His mother was referred to us by her physician because of the boy's lack of bowel control. Although the subject had appropriate urinary eliminative behavior, the mother feared that the bowel incontinence would make Jack ineligible for public school special education classes.

The mother was interviewed about Jack's problem and given a set of instructions to carry out which included recording certain information daily on a provided form. The initial interview revealed, among other things, that Jack had a good appetite, loved M and M's, peanuts and small toys, particularly cars and trucks. For six months we held weekly interviews with the mother. A large portion of these interviews were conducted by phone conversation. The data from the first three months are shown in Figure 1.

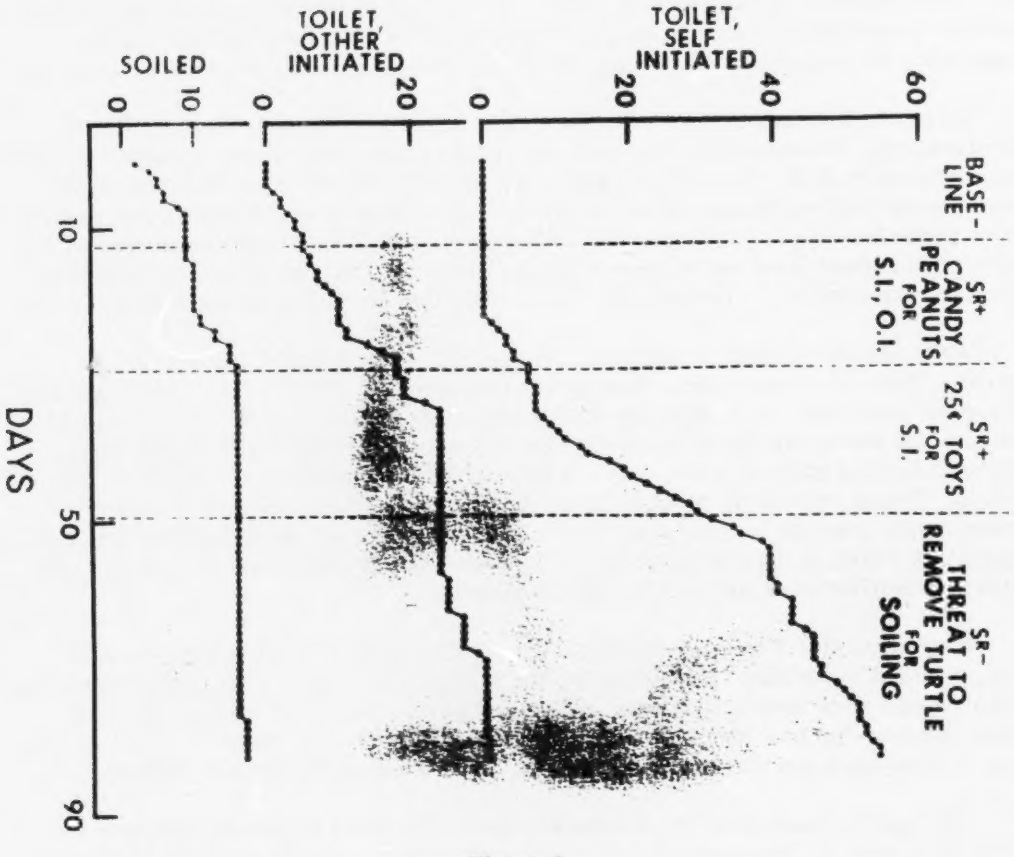


Figure 1

We asked the mother to record the circumstances of every bowel movement, whether the child soiled, had a bowel movement in the toilet when he was placed there, or initiated the appropriate behavior on his own. For the first 12 days the mother was instructed to deal with the problem as usual. As can be seen from Figure 1, he often soiled himself. He did not self-initiate toilet behavior. (In fact, the mother reported that he had never self-initiated defecating in the toilet, and she was afraid that part of his brain damage involved his not even knowing when he was having a bowel movement, thus making self-initiated behavior impossible.) His mother reported that frequently she could anticipate from his behavior when he was about to defecate. She would place him on the toilet at that time. However, these were seldom large eliminations, and her training as a nurse led her to suspect that he often retained a portion of his feces. On the thirteenth day she was instructed to begin doing two things: (a) To ask Jack to go sit on the toilet two or three times a day, requiring him to sit for only a few seconds at first and slowly increasing the time to a few minutes. While he was sitting she was supposed to interact with him in an affectionate way and to follow each successful session with a presentation of a couple of M and M's or peanuts. (b) After each bowel movement in the toilet, whether initiated by the mother or self initiated by Jack, Jack was to be given his choice of a whole bag of M and M's or peanuts. During this period accidents still occurred, but the rate of bowel movements in the toilet increased and most importantly, after less than two weeks, Jack one day went to the toilet and had a bowel movement by himself.

After several days of self-initiated bowel movements in the toilet, the consequences were changed so that only self-initiated responses were reinforced. Their consequence was a $.25 toy, usually a car or truck.

During this time the child had no accidents but had a super rate of two, sometimes three, self-initiated bowel movements a day. He also would refuse to use the toilet when his mother suggested it. Instead, he would occasionally wait around and use it a few minutes after her suggestion apparently so that it would count as a self-initiated response.

After several days the toys were given less frequently and then were gradually stopped entirely. Concurrently, the child was bought a pet of his choice, a turtle, because it was explained to Jack "You are now such a big boy and don't have accidents anymore." He was further told that on days when he did have an accident it would become his younger sister's turtle for a day. As can be seen, his rate of self-initiated bowel movements fell off to a more normal level and he once again would use the toilet at his mother's bidding. He did have one accident on this record which resulted in the turtle not being his for a day.

After the three month period shown in Figure 1, we continued to follow Jack's progress. There were two instances of particular interest. Once, a new medication for hand tremor was tried. It produced nose bleeding, disturbed balance (he often fell) and he had several bowel movement accidents after a preceeding three month period during which he had soiled himself on only one occasion. The medication was terminated after five days. Two days later he resumed using the toilet. Another difficulty involved an extended family vacation in New York. Throughout the four week period his mother initiated his use of the toilet, or he was incontinent. When the family returned home, Jack again consistently self-initiated appropriate toilet behavior.

It appeared that it was the novelty of the vacation setting which interfered with Jack's new toilet repertoire. As a remedy, the mother was instructed to begin reinforcing Jack for using a wide variety of toilets. She followed her original procedure of candy, peanuts, and cars but now for using toilets in restaurants, service stations, and in motels during weekend trips and visits to grandmother. This seemed to solve the problem.

Although the procedure I have described has an apparent simplicity and common sensical aura about it, the successful application of reinforcement procedures is actually quite demanding. The best chance of successful application of these procedures requires that the behavior repertoires of each child be fully analyzed, the potentially most effective reinforcing consequences be marshalled, and the training program be carefully planned and carried out. Also, the recording of data is necessary in order for the consequences of the prescribed procedures themselves to feed back and refine the behavior of the appliers of the procedures. Then, too, of course, a little luck is always necessary.

Even with the fulfillment of these requirements troubles are all too common. For example, often a particular child's problem will appear to be modifiable, but not under the existing environmental conditions. In our attempts to teach parents to work with their psychotic or retarded children, we have more than once come across intelligent and willing parents with a child behaving at a low level who appears to have potential, but the child is between ten and 15 years old, is large, physically healthy, active and uncontrollable by the mother, and can outrun the father. Under such conditions it is almost impossible for the parents to engineer the child's environment to the point that important consequences can be regularly programed. No amount of knowledge of reinforcement principles could produce significant success in such a case without drastically changing the environmental conditions.

Another problem is finding an important consequence for every child, particularly the severely retarded and psychotic child. Some low level children will eat only a few selected foods and even these may not be very important to the child. Risley, for example, dealt with one child who would only consume milk. Without an effective consequence, the applier of reinforcement principles is like an engineer without nails with which to build his bridge.

In conclusion, current research involving reinforcement procedures shows great promise of developing a set of useful procedures to be added to our therapeutic and educational technology for modifying deviant child behavior.

GENERAL

RELIGIOUS FACTORS IN PHYSICAL DISABILITY AND REHABILITATION

Jack E. Biersdorf
John R. Johnson, Jr.

Under a grant from the Department of Health, Education and Welfare, and in connection with Union Theological Seminary, two chaplains spent on year studying the relationship of religion to physical rehabilitation at The New York Institute of Physical Medicine and Rehabilitation, and Goldwater Memorial Hospital in New York City. The conclusion of that year's work was a focused interview study of 98 patients. This paper will give some of the results of that study. The patients interviewed varied widely in age, type of disability, social economic status, and stage of rehabilitation process, as well as content and intensity of their religious faith. The interviews were conducted by two chaplains, who knew slightly less than half of the patients prior to the hour long interview.

The general content and intensity of religious beliefs among the patients paralleled quite closely the results of studies of the general population. (Argyle, 1961; Barnett, 1948; Catholic Digest, 1952; Gallup, 1954; Roslen, 1963). For instance, 91 of the 98 patients believed in the existence of God, and three-fourths of them thought of God as a heavenly Father, who cares for and helps men. It is also important to note, as we shall see later, that half of the patients believed that God would punish man for wrong doing, either in this life or after death. Two thirds of the patients thought of the substance of religion as doing good and serving others, while one fourth found the center of religion in experiencing the nearness and presence of God in personal prayer or corporate worship. The rest emphasized the sacraments or doctrinal beliefs.

The outstanding religious practice of the patients was personal prayer. Sixty one said they prayed at least once a day, and 31 claimed to pray twice a day or more often.

One of the most interesting questions to which we addressed ourselves was what happens to a person's religious faith under the impact of a severe physical disability, especially one with a traumatic or fairly rapid onset? For most persons, this impact involved the question of God's goodness. If God is all good, and all powerful, and cares for men as a heavenly Father, how can I make sense out of this sudden and unexpected shattering of the structure of my life? Seventy-seven of the patients said that since God cares for men, he is concerned with human suffering. But if so, how? Nine patients just did not know any answer. The 28 year old son of a Baptist minister expressed his confusion in this way: "You can't put your finger on it. Your leg may be broken, but that keeps you from getting killed on the next block. Are you going to say that God doesn't love you because in such a case you broke your leg?" However, 40 of the patients saw specific evidences of God's care in the disability itself, either in the way it happened, or in some physical or emotional improvement subsequent to the onset. A 34 year old farmer who became quadraplegic when a tree fell on his head said simply: "If God had not been there with me, I would not be here." Twenty-nine of the patients had no answer to this question of human suffering, but trusted the goodness of God in spite of it, and believed that God was helping them to accept and bear their suffering. A middle aged woman said: "While the true reason may not be fully known, God still assures me in many ways of His love and care." Ten of the patients resolved this agonizing question by seeing their disability as a divine warning, punishment, or among Roman Catholics, an offering for the suffering of souls in purgatory. A 36 year old man injured in an industrial accident saw the hand of God in his subsequent recovery: "I feel a new obligation now to God. It has got to be fulfilled by staying on the straight and narrow." Or again, a 45 year old porter who had not attended church since childhood said with simple poignancy: "Even though God gave me a bad deal, I don't have to throw stones at Him. If you treat somebody nice who treats you bad, he may feel sorry, and come around."

Besides the influence of the disability on the content of religious belief, the disability also seemed to increase the intensity of religious belief and practice. Fifty-eight of the 98 patients believed they were now more interested in religion than they had been before the onset of the disability, and only four were less interested. However, this increased interest was expressed, not in attending corporate worship, but in personal prayer and meditation.

Secondly, we dealt with the question: What resources does religious faith offer in meeting disability and how may it support the process of rehabilitation? We will look first at the patients' reports of the influence of their faith on the arduous and demanding rehabilitation process. Exactly two-thirds of the patients believed that their faith favorably affected their progress in the rehabilitation setting. However, some deeply religious people answered negatively because for them the question had the implication that their religious faith might magically remove the disability. One person who so answered was a seminary professor of church history. It is very interesting that the help patients believed they received was a nonspecific kind of support and strength. Most patients were hard pressed to tell the interviewers exactly how their faith helped them. A 58 year old Jewish store owner who became paraplegic as a result of a car accident expressed his confusion thus: "Praying helps me a little bit every day. That is where the miracle comes in. Whether it is the physical therapist on the legs, or the doctor's pill... I will suddenly find a little return."

However, we were able to distinguish three types of answers. Some persons found faith central to the acceptance of their disability and all it implied. Other persons found that their faith enabled them to bear the pain of the disability and the strength to undergo the necessary operations. A 36 year old man injured in an industrial accident said that only his faith in God and his desperate prayer life kept him from "going crazy" during the three weeks the doctors tried to save his leg. The evening before the operation to amputate, the patient received communion and found his pain gone, and a sense of inner peace for the first time since the accident. The pain returned, but the peace remained. The next morning when the patient told the operating surgeon that he had prayed for him, the doctor spoke of his need for Divine guidance before an operation. Finally, some persons found that their faith in God gave them the strength to keep trying and working through the agonizing process of rehabilitation. A 42 year old grocery clerk said: "Having faith gives incentive. If you trust God is with you, helping you and alleviating fear, you are more apt to help yourself."

When we began the study we expected to find persons whose religious faith served the purposes of denial. This denial would block the awareness of the seriousness of the disability, and would obstruct the rehabilitation process which depends so much on the patient's own efforts. We were only able to find one such person. He was a 24 year old construction worker of pentecostal faith, who was badly brain damaged in an industrial accident. He firmly believed that whatever he asked through prayer, he would receive. This young man expected to leave the hospital exactly as he had been before his accident.

A possible objection to these findings about the felt importance of religious faith in the rehabilitation process might be simply that the patients told the chaplain interviewers what they thought the chaplains wanted to hear. Therefore, we were quite interested in a multiple choice questionaire study of fifty patients done by a medical student, John Tamarin, while we were doing our project. The questionnaire asked patients to select the three factors of 25 possible choices which they felt to be the most important factors for their progress in physical rehabilitation. Possible choices ranged from "physical therapist" and "personal determination" to "faith in God." "Faith in God" was chosen more, and first more often than any other response. In the final weighted scoring, Dr. Tamarin found that "faith in God" was more than twice as significant than any other factor.

Besides the influence of religious faith on the rehabilitation process, patients felt that prayer, religious experiences, and religious thoughts and ideas were generally important sources of strength and comfort in dealing with the disability itself. Seventy one patients prayed about the disability, ranging on a continuum from concrete requests for physical improvement, to meditations and petitions to find meaning and understanding of their lives as disabled persons. An example of a specific prayer and its answer is this statement by a 67 year old barber of Baptist faith:

> I got relief from Jesus Christ just last night. I thought he came to me. And I talked to God just like to a man, a human being like you. I told Him what I wanted. He disappeared, and I woke up, just as happy as I could be, with no pain.

At the other end of this continuum of religious sophistication, here is the report of a 33 year old former executive of a large corporation, now a quadriplegic:

> Initially I hoped there would be more nerve recovery. I still hold that hope, but now I look for strengthening of muscles and improved functioning. But primarily what I would like to attain is some real spiritual understanding. I would like to grow in grace. Religion has given me the strength to realize that this is not the end of the world. I am now more interested in religion because I have more time to think, more opportunity to reflect. I have been made more grateful for the blessings I have.

Thirty patients had specific religious experiences connected with the disability and their reactions to it. A headwaiter, with no prior church affiliation, spoke of how once he had been: "...very sad, and full of all kinds of fears. But then I prayed to God, and fell asleep. When I woke up one hour later, I felt like a different person." A 26 year old postpolio patient told of: "A couple of times when I was real sick, there just wasn't anyone else to turn to. I asked to get better, or at least to be able to face what was given to me."

Thirty-seven patients said that there were specific religious ideas or thoughts which gave them comfort and hope when things were at their worst. Many of these were references to passages of the Bible. Parables or incidents in the life of Jesus were mentioned most often, followed by the Twenty-third Psalm and other psalms.

We also were very interested in the kind of comparable resources for strength that would be open to agnostics and atheists. While there were too few of them too compare on any statistical basis, the bitterness and depression among them was striking in contrast. The only two mentions of suicidal thoughts also occurred among these seven patients. A 47 year old agnostic engineer, a paraplegic for ten years, compared how he first felt about the disability with how he felt now:

> I felt the same way as today, namely that it would have been better if I had been hit on the head. Then it would have been all over at once... I would rather be all dead than half dead. But you get used to it, put up with it. That is all you can do. I don't have enough nerve to jump out of the window.

Two of the patients remarked wistfully that they wished they did have the comfort of religious faith. A 61 year old agnostic carpenter said: "There are things which I don't want to talk about. I envy religious people, they have got something I haven't. But I can't get it if I don't have it." We did, however, find one agnostic with some basis for hope. A 56 year old former psychology professor suffering from multiple sclerosis found comfort in the thought that: "...either here on earth, or on some other planet, life will continue to exist as long as time is of any importance to anyone. As a result I read astronomy."

Before closing, I would like to introduce you briefly to one person who seemed to combine the various aspects of meeting a severe disability with the resources of a mature religious faith. She was an engaging 37 year old Roman Catholic suburban housewife who became paraplegic. Let me quote some excerpts from her conversation with the interviewer:

> I felt angry toward God in the beginning. In my depression I wondered how there could be a God with so much suffering in the world. But then I realized I shouldn't be thinking like that. Things do happen for a reason, even if we don't know why... Because of what I have been through, I realize that He has not abandoned me. Each little bit of improvement needs thanking for. I tended to take so many things for granted. I have God to thank for so many things...I did not pray to get better. I prayed for tolerance and understanding, for other sufferers, for anybody who needed help... Especially when I'm getting the feeling back, and I am in great pain, I offer it up to God... Faith gives me strength to try again and again. This thing is so nebulous, and there are no answers with this type of disability. If I would not have faith in the unseen, I could not accept this either....I have found a great closeness to God through all this. I did not go to church before, there was always cooking to do. This has brought me closer. Now going to church is the least I can do, for He has helped me a great deal.

A descriptive survey such as this raises many more questions than it answers. In particular, further research is needed to sort out the differences in religious, cultural, and psychological backgrounds that seem to be correlated with these differences in the helpfulness of religious faith in meeting the crises of physical disability. However, one implication seems clear. That is the need for a chaplain in a physical rehabilitation setting, who will be able to meet patients at the level of their specifically religious concerns. For it would seem that a physically disabled person is faced with, and often consciously raises questions of ultimate concern which finally cannot be dealt with on any other level. Three of these questions might be characterized as follows: First, as a physically disabled person in an activist culture which is preoccupied with physical appearance, what can I do to find a meaningful direction, a vocation and satisfaction in my life and in my personal relationships? Secondly, who can I be? Is it possible to see myself as a whole person of dignity and worth, even though my body is disabled? Third, in the midst of the tragic and irrevocable losses that accompany my disability, what may I hope? Is there ultimate assurance of meaning and value for my life?

This paper has dealt with some of the results of a focused interview study of 98 physically disabled persons regarding their religious faith, and the relation of that faith to their physical disability.

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THE GUIDANCE OF EXCEPTIONAL CHILDREN

John Curtis Gowan

Concern for the qualities of exceptional human beings arises out of an exceptional concern for the qualities of all human beings. Thus a good guidance program for exceptional children is an outgrowth of a good general guidance program, just as the latter in turn is an outcome of an intelligent and democratically oriented school administration.

But concern without knowledge of procedure can be sentimental at best, and dangerous at worst; what is needed is the carrying over of the principle and objectives of guidance to fit the special cases involved in the education of exceptional children. It is certainly appropriate to reiterate these principles briefly:

1. School guidance seeks to help children solve their developmental tasks on schedule.
2. School guidance seeks to individualize the curriculum according to the child's needs and capacities.
3. School guidance recognizes the primacy of cognitive competence in influencing emotional health and overall orientation to reality.

4. School guidance is also concerned with the promotion, establishment and maintenance of sound social relationships.

5. School guidance seeks to be permissive rather than directive, nonpunitive rather than punitive, listening rather than talking, and ameliorative rather than threatening.

6. School guidance seeks first the child's welfare.

It remains only to assess how these principles need to be modified in procedures carried out for the guidance of the exceptional child. Obviously the major modification in the principles is that of adapting to the capacities of the child, and the timing of guidance procedures. We cannot, for example, expect that the retarded child will accomplish all his developmental tasks on schedule. We can, however, begin to help him, very early, and with a wider assortment of people to assist the task.

This brings us to two major departures in the guidance of exceptional children: (a) Guidance is distributed over a wider temporal span, starting earlier, and extending later in the lifetime of the individual; and (b) Guidance is distributed over a wider personnel span, embracing not just the ordinary guidance workers, but literally all persons who come in contact with the exceptional child, from his parents onward. It should come as no great surprise to us to find the guidance of all types of exceptional children follows these general guidelines: whether children are delinquent, potential dropouts, emotionally disturbed, mentally handicapped, or physically handicapped, the remedy for their problems is to start as early and involve them with as many types of guidance-workers as possible, enlisting the home whenever feasible. It is certainly easier to involve guidance in preschool, in school, and in vocational training of these unfortunates, than to neglect them until they become public charges, and then try vainly to rehabilitate them when it is too late. In medicine, we would never think of allowing children to become infected with disease and then try to cure them years later, when we could have prevented the infection in the first place.

The broadened function of guidance may be divided into six areas: (a) parental, (b) preschool, (c) personality and self-concept, (d) cognitive, (e) emotional and social, (f) vocational. These will be treated briefly in turn.

In most cases involving exceptional children, the parents are the most important guidance influence, as well as often being the most unwholesome and uncooperative. Often immobilized by guilt about the exceptional child coupled with rejection of him, and frequently having problems of their own, their influence is generally negative, and usually magnifies whatever problem exists. It is therefore very important that parents be reached, and that every effort be made to help them understand, and cope with the problem. One of the best ways of handling this is through group guidance sessions with parents who have children with similar problems.

Preschool guidance is very important for the exceptional child, since it accomplishes two important things: (a) it involves a professional worker early in the child's life who can take some of the strain off the parents and the child, and (b) it involves the child early in making a start to cope with his problems. The child early gets into the habit of open cooperation with others, and of looking outside family figures for approval. Such guidance also helps the child in his early efforts to socialize.

The development of a proper and healthy self-concept is a key factor in the guidance of exceptional children. The child must come to see himself as someone who can and does perform, not someone relegated to the sidelines of life. The earlier this occurs the better.